THE FARMERS' REGISTER.

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EDMUND RUFFIN, EDITOR AND PROPRIETOR.

PUBLICATION OF THE BYRD MANUSCRIPTS.

We have so often complained, and to so little purpose, of the dearth of communications to the Farmers' Register, that it is perhaps useless to renew or even to advert to such complaints. If it were of use, we could again fill pages with the most cogent and obvious reasons why, for their own interest, (independent of more general and important considerations,) our many old correspondents, who have ceased to confer such favors, should again contribute articles for publication to our work; and that the far greater number of well qualified persons who have never commenced to render such services, should forthwith begin and continue to furnish agricultural information. But, we fear, it is useless to say again what has been already said in vain so often before. And, in the mean time as there is neither much original matter furnished, and as our brother editors of agricultural journals seem to be as poorly supplied, so that it is almost as difficult to find good articles for selection and republication, we shall attempt to supply the deficiency with other original and good and interesting matter, and such as will accord with our original plan, and will not be out of place in the Farmers' Register; but which will certainly be less appropriate than would be useful articles on practical agriculture, which will always be the most desirable and valued, and which, when offered, will have precedence of all others.

With this view, we shall commence in this number the publication of the Byrd manuscripts, and first the "History of the Dividing Line betwixt Virginia and North Carolina, run in the year 1728." There has been no publication previously made of these curious and interesting writings, and neither is there in existence any copy of the time-worn original manuscripts, which were placed at our disposition by the owner, the late George E. Harrison of Brandon. In publishing and presenting this work to our readers, we trust that we shall render a service as acceptable to them as we know it will be valuable to the literary public. It will be best both for the appearance of the work and the convenience of readers, that the separate sheets of this work shall be placed together, and be so bound at the end of the volume of the Farmers' Register; and with that view, the pages will be numbered separately.

HAY SEED UPON INVERTED SOD.

From the New England Farmer.

Many of our moist lands upon our dry uplands and the bog meadows, though natural to grass, occasionally need renovating. As long as a common top-dressing will call a good crop, nothing more should be done than to apply the manure on the surface. But when the better grasses have run out, and when moss begins to collect upon the surface, it is necessary to plough such land. But where the plough will do its work tolerably well, it is not necessary to plant. Those lands which are wet and heavy in the early part of the season, and which bake in the scorching months of July and August, are not profitable for tillage. They may yield a crop of potatoes, and possibly of corn, but the chances for this are small, and it is usually bad working these wet spots in the early part of the season. The best way to treat them is, to turn the land over as soon as it can conveniently be done after the crop of hay has been removed; to plough in such direction that the dead furrows shall come in suitable places for surface drains, to roll well; and then put on a dressing of compost. When this has been done, sow hay seed, and harrow thoroughly. Then use the roller again, and the next season you may obtain a *fair* crop of hay, and the following year you probably will get a *heavy* burthen. Herds-grass is better for these moist grounds than clover or red top. No one who has been accustomed to this process will ever think of tilling any wet lands that can be laid over smooth by the plough.

The process here recommended has been repeatedly urged upon our farmers, by Mr. Buckminster, editor of the Boston Cultivator; and as far as he has influenced them to comply with his advice in this matter, he has rendered them good service.

This is the proper season of the year for working all low lands, and it is by attention to them, that our farmers generally must hope to thrive. They repay the labor and expense bestowed upon them better than most of the high grounds.

DRIVING NAILS INTO HARD WOOD.

From the New Genesee Farmer.

We have lately seen another experiment of driving nails into hard seasoned timber, fairly tried. The first two nails, after passing through a pine board, entered about an inch, and then doubled down under the hammer; but on dipping the points of the other six or eight nails into lard, every one was driven home without the least difficulty.

Carpenters, who are engaged in repairing old buildings, sometimes carry a small lump of lard or tallow for this purpose on one of their boots or shoes.

OF SEED-SOWING AND SEED SAVING.

From Lindley's Horticulture.

When a seed is committed to the earth, it undergoes certain chemical changes before it can develope new parts and grow. These changes are brought about by heat and water, assisted by the absence of light. In many seeds the vital principle is so strong, that to scatter them upon the soil, and to cover them slightly with earth, are sufficient to insure their speedy germination; but in others the power of growth will only manifest itself under very favorable conditions; it is, therefore, necessary to consider well upon what the circumstances most suitable to germination depend.

Moisture is necessary, but not an unlimited quantity. If a seed is thrown into water and exposed to a proper temperature, the act of germination will take place; but, unless the plant is an aquatic, it will speedily perish; no doubt because its powers of respiration are impeded, and it is unable to decompose the water it absorbs, which collects in its cavities and becomes putrid. There must, therefore, be some amount of water, which to the dormant as well as the vegetating plant is naturally more suitable than any other; and experience shows that quantity to be just so much as the particles of earth can retain around and among them by the mere force of attraction. To this is to be ascribed the advantages derived from those mixtures of peat, loam, and sand, which gardeners prefer for their seedlings; the peat and sand together keep asunder the particles of loam which would otherwise adhere and prevent the percolation of water; the loam retains moisture with force enough to prevent its passing off too quickly though the wide interstices of sand and peat. If during the delicate action of germination, the changes that the seed undergoes take place without interruption, the young plant makes its appearance in a healthy state; but, if by irregular variations of heat, light, and moisture, the progress of germination is sometimes accelerated and sometimes stopped, the fragile machinery upon which vitality depends may become so much deranged as to be no longer able to perform its actions, and the seed will die. It is for the purpose of securing uniformity in these respects, that we employ, in delicate cases, the steady heat of a gentle hot-bed, shaded; and, in all cases whatever, the assistance of a coating of earth scattered over the seed.

Under what depth of earth seed should be buried must always be judged of by the experience of a gardener: but it should be obvious that minute seeds, whose powers of growth must be feeble in proportion to their size, will bear only a very slight covering; while others, of a larger size and more vigor, will be capable, when their vital powers are once put in action, of upheaving considerable weights of soil. As, however, the extent of this power is usually uncertain, the judicious gardener will take care to employ, for a covering, no more earth than is really necessary to preserve around his seeds the requisite degree of darkness and moisture.* Hence the common practices of sowing small seeds upon the surface of the soil, and covering them with a coating of moss, which may be removed when the young seedlings are found to have established themselves. In other cases, very minute seeds are mixed with sand before they are sown.

The latter practice is not, however, merely for the sake of covering the seed with the smallest possible quantity of soil, but has for its object the separation of seeds to such a distance, that when they germinate they may not choke up each other. If seedlings, like other plants, are placed so near together that they either exhaust the soil of its organizable matter, or overshadow each other so as to hinder the requisite quantity of light, some will die in order that the remainder may live; and this, in the case of rare seeds, should, of course, be guarded against very carefully.

With regard to the temperature to which a seed should be subjected, in order to secure its germination, this, undoubtedly, various with different species, and depends upon their peculiar habits, and the temperature of the climate of which they are native. So far as general rules can be given upon such a subject, it may be stated that the temperature of the earth most favorable for germination is 50° to 55° for the seeds of cold countries, 60° to 65° for those of "green-house plants," and 70° to 80° for those of the torrid zone. No seed, however, has been known to refuse to germinate in the last-mentioned temperature, although those to which such a heat is necessary will not, in general, grow in a healthy manner in a lower temperature. We have no exact experiments upon this subject, except in a few cases recorded by Messrs. Edwards and Colin, by whom there is a very valuable set of observations upon the temperatures borne by certain agricultural seeds. (*Annales des Sciences*, new series, vol. v. p. 5), the result of which may be thus stated:—

At 44.6°, wheat, barley, and rye could germinate.

95° *in water*, for three days, $\frac{5}{4}$ of the wheat and rye, and all the barley, were killed.

104°, *in sand and earth*, the same seeds sustained the temperature for a considerable time, without inconvenience.

113°, under the same circumstances, most of them perished.

122°, under the same circumstances all perished.

But it was found that, for short periods of time, a much higher temperature could be borne.

At 143.6°, *in vapor*, wheat, barley, kidney-beans, and flax retained their vitality for a quarter of an hour; but in 27½ minutes, the three last died at a temperature of 125.6°.

167°, *in vapor*, they all perished.

167°, *in dry air*, they sustained no injury.

It will be presently seen that some seeds will bear a much higher temperature.

The foregoing observations apply to seeds in a perfect state of health; when they have become sickly or feeble, from age or other causes, some

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*It may perhaps, be as well to notice, in this place, an erroneous opinion, not uncommonly entertained, that seeds must be "well" buried in order that the young plants, when produced, may have "sufficient hold of the ground." The fact is, that a seed, when it begins to grow, plunges its roots downwards and throws its stem upwards from a common point, which is the seed itself; and, consequently, all the space that intervenes between the surface of the soil and the seed is occupied by the base of the stem, and not by roots.

precautions become necessary, to which, under other circumstances, no attention requires to be paid.

When the vital energies of a seed are diminished, it does not lose its power of absorbing water, but it is less capable of decomposing it. The consequence of this is, that the free water introduced into the system collects in the cavities of the seed, and produces putrefaction; the sign of which is the rotting of seeds in the ground. The remedy for this is to present water to the seed in such small quantities at a time, and so gradually, that no more is absorbed than the languid powers of the seed can assimilate; and to increase the quantity only as the dormant powers of vegetation are aroused. One of the best means of doing this is, to sow seeds in warm soil tolerably dry; to trust for some time to the moisture that exists in such earth, and in the atmosphere for the supply required for germination; and only to administer water when the signs of germination have become visible; even then the supply should be extremely small. If this is attended to, carbonic acid is very slowly formed and liberated, the chemical quality of the contents of the seed is thus insensibly altered, each act of respiration may be said to invigorate it, and by degrees it will be brought to a condition favorable to the assimilation of food in larger quantities. Mr. Knight used to say that these effects were produced in no way so well as by enclosing seeds between two pieces of loamy turf, cut smooth and applied to each other by the underground sides; such a method is, however, scarcely applicable to any except seeds of considerable size.*

Other expedients have occasionally been had recourse to successfully. Where seeds are enclosed in a very hard dry shell, it is usually necessary to file it thin, so as to permit the embryo to burst through its integuments when it has begun to swell. Under natural circumstances, indeed, no such operation is practised: but it is to be remembered that such seeds will have fallen to the ground as soon as ripe, and before their shell acquired the bony hardness that we find after having become dry.

Sometimes it has been found useful to immerse seeds in tepid water until signs of germination manifest themselves, and then to transfer them to earth: but this process cannot be applied with advantage to seeds in an unhealthy state; and it is only of use to healthy seeds, by accelerating the time of growth, a practice which may, in outdoor crops, be sometimes desirable, when applied to seeds which, like the beet, the carrot, or the parsnip, will in dry seasons, lie so long in the ground without germinating, that they become a prey to birds or other animals.

Of late years, the singular practice has been introduced of *boiling* seeds, to promote germination. This was, I believe, first recommended by Mr. Bowie, who stated, in the *Gardener's Magazine*, vol. viii. p. 5, (1832,) that "he found the seeds of nearly all leguminous plants germinate more readily by having water heated to 200°, or even to the boiling point of Fahrenheit's scale, poured over them, leaving them to steep and the water to cool for twenty-four hours." Subsequently, the practice has been adopted by other persons with perfect success; and, some years ago, seedlings of Acacia lophantha were exhibited before the Horticultural Society by the late Mr. Thomas Cary Palmer, which had sprung from seeds boiled for as much as five minutes. I am also acquainted with other cases, one of the more remarkable of which was the germination of the seeds of the raspberry, picked from a jar of jam, and which must therefore have been exposed to the temperature of 230°, the boiling point of syrup. It is difficult to understand in what way so violent an action can be beneficial to any thing possessing vitality; the fact, however, is certain. As such instances of success are confined to seeds with hard shells, it is possible that the heated fluid may act in part mechanically by cracking the shell, in part as a solvent of the matters enclosed in the seed, and in part as a stimulant.

Mr. Lymburn, nurseryman at Kilmarnock, has lately called attention to the effect produced upon germinating seeds by alkaline substances. He states that experiments made by Mr. Charles Maltuen, and narrated in Brewster's Journal of Science, having shown that the negative or alkaline pole of a galvanic battery caused seeds to germinate in much less time than the positive or acid pole, he was induced to observe the effects on seeds of acetic, nitric, and sulphuric acids, and also of water rendered alkaline by potash and ammonia. "In the alkaline, the seeds vegetated in thirty hours, and were well developed in forty; while in the acetic and sulphuric they took seven days; and, even after a month, they had not begun to grow in the acetic." This experiment led to others upon lime; "a very easily procured alkali, and which he inferred to be more efficient than any other from the well-known affinity of quick or newly slacked lime for carbonic acid. Lime, as taken from the quarry, consists of carbonate of lime, or lime united to carbonic acid; but in the act of burning, the carbonic acid is driven off; and hence the great affinity of newly slacked lime for carbonic acid.

He depended, therefore, upon this affinity, to extract the carbon from the starch, assisted by moisture," (*Gard. Mag.*, xiv. 74); and it is stated that the results were exceedingly striking, Old spruce fir seed, which would scarcely germinate at two years old, produced a fine healthy crop when three years old, having been first damped and then mixed with newly slacked lime; and under the same treatment, an average crop of healthy plants was obtained when the seed was four years old. Unfortunately, the manner in which the original experiments upon acids and alkalies were conducted is not explained, (it is to be presumed that the water employed was only *acidulated* with the acids spoken of,) and I am not aware of the experiments having been repeated. The last method of promoting germination, to which it is necessary to advert, is the mixing seeds with agents that have the power of liberating oxygen. It has been shown that a seed cannot germinate until the carbon with which it is loaded is to a considerable extent removed; the removal of this principle is effected by converting

* [The sowing of very small and delicate seeds in the open air should be deferred until the season is so far advanced, that all probable danger from cold weather is past. In case of drought they may be shaded during sunshine, and watered with a fine-nosed watering-pot in the evening. A. J. D.]

it into carbonic acid, for which purpose a large supply of oxygen is required. Under ordinary circumstances, the oxygen is furnished by the decomposition of water by the vital forces of the seed; but when those forces are languid, it has been proposed to supply oxygen by some other means. Humboldt employed a dilute solution of chlorine, which has a powerful tendency to decompose water and set oxygen at liberty, and, it is said, with great success. Oxalic acid has also been used for the same purpose.

Mr. Otto, of Berlin, states that he employs oxalic acid to make old seeds germinate. The seeds are put into a bottle filled with oxalic acid, and remain there till the germination is observable, which generally takes place in from twenty-four to forty-eight hours; when the seeds are taken out, and sown in the usual manner. Another way is to wet a woollen cloth with oxalic acid, on which the seeds are put, and it is then folded up and kept in a stove; by this method small and hard seeds will germinate equally as well as in the bottle. Also very small seeds are sown in pots and placed in a hot-bed; and oxalic acid, much diluted, is applied twice or thrice a day till they begin to grow. Particular care must be taken to remove the seeds out of the acid as soon as the least vegetation is observable. Mr. Otto found that by this means seeds which were from twenty to forty years old grew, while the same sort, sown in the usual manner, did not grow at all (*Gard. Mag.*, viii. 196): and it is asserted by Dr. Hamilton (*Ib.*, x. 368, 453,) and others, that they have found decided advantages from the employment of this substance. Theoretically it would seem that the effects described ought to be produced, but general experience does not confirm them; and it may be conceived that the rapid abstraction of carbon, by the presence of an unnaturally large quantity of oxygen, may produce effects as injurious to the health of the seed as its too slow destruction in consequence of the languor of the vital principle.

The length of time that some seeds will lie in the ground, under circumstances favorable to germination, without growing, is very remarkable, and inexplicable upon any known principle. If the hawthorn be sown immediately after the seeds are ripe, a part will appear as plants the next spring; a larger number the second year; and stragglers, sometimes in considerable numbers, even in the third and fourth seasons. Seeds of the genera ribes, berberis, and pæonia, have a similar habit. Mr. Savi is related by De Candolle to have had, for more than ten years, a crop of tobacco from one original sowing; the young plants having been destroyed yearly, without being allowed to form their seed. This matter does not, perhaps, concern the theory of horticulture, for theory is incapable of explaining it; but it is a fact that it is useful to know, because it may prevent still living seeds from being thrown away under the idea that, as they did not grow the first year they will never grow at all.

The maturation of the seed, being a vital action indispensable to the perpetuation of a species, is, in wild plants, guarded from interruption by so many wise precautions, that no artificial assistance is required in the process; but in gardens, where plants are often enfeebled by domestication, or exposed to conditions very different from those to which they are subject in their natural state, the seed often refuses to ripen, or even to commence the formation of an embryo. In such cases, the skill of gardeners must aid the working of nature, and art must effect that which the failing powers of a plant are unable to bring about of themselves.

Sterility is a common malady of cultivated plants; the finer varieties of fruit, and all double and highly cultivated flowers, being more frequently barren than fertile. This arises from several different causes.

The most common cause of sterility is an unnatural developement of some organ in the vicinity of the seed, which attracts to itself the organizable matter that would otherwise be applicable to the support of the seed. Of this the pear, the pine-apple, and the plantain are illustrative instances. The more delicate varieties of pear, such as the Gansel's bergamot and the chaumontelle, have rarely any seeds; of pine-apple, none, except the Enville now and then, have seeds, and that variety, though a large one, is of little value for its delicacy, and probably approaches nearly to the wild state of the plant; of plantains, few, except the wild and crabbed sorts, are seedful. The remedy for this appears to be, the withholding from such plants all the sources from which their succulence can be encouraged. If, in consequence of any predisposition to form succulent tissue (on which the excellence of fruit much depends,) the organizable matter of the plant be once diverted from feeding the seed to those parts in which the succulence exists, it will continue, by the action of endosmose, to be attracted thither more powerfully than to any other part, and the effect of this will be the starvation of the seed: but a scanty supply of food, an unhealthy condition of the plant itself, or withholding the usual quantity of water, will all check the tendency to luxuriance, and therefore will favor the developement of the seed, whose feeble attracting force is, in that case, not so likely to be overcome by the accumulation of attracting power in the neighboring parts. Thus we see that pine-apples are more frequently seedful under the bad cultivation of the continent, than in the highly kept and skilfully managed pineries of England. Abstraction of branches, in the neighborhood of fruit, has also been occasionally found favorable to the formation of seed; evidently because the food that would have been conveyed into the branches, having no outlet, is forced into the fruit.

Another cause of sterility is the deficiency of pollen in the anthers of a given plant, as in vegetable mules which usually partake of the spermatic debility so well known in similar cases in the animal kingdom. It has often been found that sterility of this kind is cured by the application, to the seedless plant, of the vigorous pollen of another less debilitated variety.

In some plants, such as pelargoniums, when cultivated, the anthers shed their pollen before the stigma is ready to receive its influence, and thus sterility results. All such cases are provided for, by employing the pollen of another flower. (See Sweet, in the *Gardener's Magazine*, vii. 206.)

An unfavorable state of the atmosphere obstructs the action of pollen, and thus produces

sterility. Pollen will not produce its impregnating tubes in too low a temperature, or when the air is charged with moisture; neither, in the absence of wind or insects, have some plants the power of conveying the pollen to the stigma, their anthers having no special irritability, and only opening for the discharge of the pollen, not ejecting it with force. If we watch the hazel, or any of the coniferous order, in which the enormous quantity of pollen employed to secure the impregnation of the seed renders it easy to see what happens, it will be found that no pollen is scattered in damp cold weather; but, in a sunny, warm, dry morning, the atmosphere surrounding such plants is, in the impregnating season, filled with grains of pollen discharged by the anthers. In wet springs the crops of fruit fail, because the anthers are not sufficiently dried to shrivel and discharge their contents, which remain locked up in the anther cells till the power of impregnation is lost. In vineries and forcing-houses generally, into which no air is admitted to disturb the foliage, nor any artificial means employed for the same end, and when the season is too early for the presence of bees, flies, and other insects, the grapes will not set: and in the frames of melons and cucumbers, from which insects are excluded, no seed is formed unless the pollen is conveyed by hand, from those flowers in which it is formed, to others in which the young fruit alone is generated. In all cases of this kind, the remedy for sterility is obvious enough where plants exist in an artificial condition; but, when they occur in the orchard or the flower-garden, in the open air, science suggests no assistance.

It sometimes happens that particular parts of plants, distant from the fruit, are so constructed as to attract to themselves the food intended for the fruit, and thus to prevent the formation of seed. For example:—The early varieties of potato do not readily produce seed, owing to the abstraction by their tubers of the nutritive matter required for the support of the seed. Mr. Knight found that by destroying the tubers in part, as they formed, seeds were readily procured from such varieties.*

But perhaps the most frequent cause of sterility is the monstrous condition of the flowers of many cultivated plants. It has been fully explained that the floral organs of plants are nothing more than leaves, so modified as to be capable of performing special acts, for particular purposes; but they are not capable of performing those acts any longer than they retain their modified condition: and therefore the stamens cannot secrete pollen, when, by accidental circumstances, they are changed into leaves, as happens in double flowers; then, there is nothing to fertilize the stigma, and, of course, no seed is produced. Or the carpels themselves may be converted into leaves, and have lost their seed-bearing property. Double flowers in the latter case cannot possibly bear seed; but in the condition first mentioned they may, and often do. To bring this about, the cultivator plants in the vicinity of his sterile flowers others of the same species in which a part at least of the stamens are perfect, and they furnish a sufficiency of pollen for the impregnation of the other flowers in which there are no stamens.

In some cases, principally in those of composite flowers, the seed is formed and advanced towards perfection, and then decays; this is owing to the flower heads of such plants being composed, in a great measure, of soft scales, absorbent and retentive of moisture, to which, in their own country, they are not exposed in the fruiting season, but by which they are affected under the hands of the cultivator. When the heads of such flowers are soaked with moisture, which they cannot get rid of, the scales rot, and decay spreads to all the other parts, and thus the production of seed is prevented. The Chinese chrysanthemum is a familiar instance of this. Such plants seed readily if the flower heads are kept warm and dry; and it is thus that the sterile chrysanthemum has been made seedful; that is to say, by growing it in a dry warm winter border, protected from showers by a roof of glass, or by using some such means of guarding it; or by rearing it in a warm dry climate.

When seeds are freely produced, it is not altogether a subject of indifference in what way they are saved, if it is desired that their progeny should be the most perfect that can be obtained. Weak seeds produce weak plants, and therefore recourse should be had, in all delicate cases, to artificial means for giving vigor to the seed. In general, the cultivator trusts to his eye for separating the plumpest and most completely formed seeds; or to floating them in water, selecting only the heavy grains that sink, and rejecting all those which are buoyant enough to float.

But the energy of the vital principle in a seed may be, undoubtedly, increased by abstracting neighboring fruits, by improving the general health of the parent plant, by a full exposure of it to light, and by prolonging the period of maturation as much as is consistent with the health of the fruit. It is a constant rule that seedlings take after their parents, an unhealthy mother producing a diseased offspring and a vigorous parent yielding a healthy progeny, in all their minute gradations and modifications; and this is so true, that, as florists very well know, semi-double ranunculi, anemones, and similar flowers, will rarely yield double varieties, while the seed of the latter as unfrequently give birth to semi-double degenerations. Independently of these things, it is indispensable that the seed of a plant, when saved, should be perfectly ripe, if it is intended to be laid by for future sowing. The effect of ripening is to load the seed with carbon in the form of starch, or some such substance and to deprive it of water, conditions necessary for its preservation: but, if a seed is gathered before being ripe, these conditions are not secured; and, in proportion to the deficiency of carbon and superabundance of water is the seed liable to perish.

The complete maturation of the seed is, however, a disadvantage, when it has to be sown immediately after being gathered; for the embryo is formed, and capable of germinating, long before

* [*Vice versa*, the produce of the potatoes may be much increased by plucking off the blossoms, in which case the nutritive matter which would have been expended upon them and the berries, or fruit, serves to increase the size of the tubers, for which alone the plant is cultivated. This fact, so perfectly consistent with theory, has been completely confirmed by experiment. See *Liebig's Organic Chemistry*, p. 125. A. G.]

the period of greatest maturity. There are two periods in the latter part of the organization of a seed which, although separated by no limits, require to be distinguished. The first is that when the embryo is completed; and the second is when nature has, in addition, furnished it with the means of maintaining its vitality for a long period. It is just as capable of growing at the expiration of the first period as of the second; it will do so immediately if committed to the ground, and we see it actually happening to peas, beans, corn, and other field crops, in wet summers; but, at the end of the second period, it cannot germinate till it has relieved itself of all the carbon which, during that period, was deposited in its tissue.

If seeds are to be preserved for a length of time, a state of complete dryness is so necessary to them that it has been recommended to increase it by artificial means; not, however, by the application of heat, or by any process like that of kiln-drying, for that would destroy their vitality; but by some of those chemical processes which dry the atmosphere without raising its temperature. It occurred to Mr. Livingstone, that air made dry by means of sulphuric acid might be advantageously employed for this purpose, and he says that the success of his experiments was complete. He placed the seeds to be dried in the pans of Leslie's ice machine, and carefully replaced the receiver without exhausting the air; small seeds were sufficiently dried in one or two days, and the largest seeds in less than a week. (*Hort. Trans.*, iii. 184.)

Other contrivances might easily be adopted. Muriate of lime, for instance which has the property of absorbing the moisture of the atmosphere, might, perhaps, be employed with advantage in drying the air in which seeds are placed after being gathered.

The reason why it is so important that seeds which have to be long kept should be thoroughly dried, is, partly because seeds have the power of decomposing water, which causes the commencement of germination, and, if this happens while they are cut off from the other means of existence, the process of growth must be stopped, and their death will follow; and, in part, from the tendency of vegetable matter in contact with water to putrefy, if the actions of life are not in play.

THE PEAR TREE.

From the New Genesee Farmer.

We are told that many persons are afraid to plant pear trees, lest they should die with the *fire blight;* that they have done their best to save the trees, but all to no purpose; and that they now settle down in despair. In reply to this melancholy account, however, we can repeat the assurance that *we have not lost a single tree by the fire blight in twenty years.* It has been in our fruit garden several times, but always seemed to walk out again as fast as we did; for we cut off the injured branches *without delay*, and burnt them *immediately*, destroying, as we believed, the whole colony of insects that had committed the depredation.

As soon as the leaves begin to blacken on the branches, for two feet or more near their extremities, let the owner waken up at once, lay aside all other business, and proceed with as much zeal to the task as he would drive the pigs from his garden. We are satisfied it is the putting off till a more convenient season in such cases, that proves so fatal to the pear tree. The stable door may be locked when the horse is stolen; and the limb may be cut off when the insects are gone to another part of the tree. Did you cut off the limb *below* where it was dead, say a foot or more? "No, we only cut off the dead part"—leaving the insect at work below. Did you burn it when it was cut off? "Why, no, we left it under the tree"—for the insect (if there) to go up again at his leisure.

THE CURCULIO.

From the New Genesee Farmer.

Every person who owns a plum tree, ought to feel an interest in the history of the curculio, for it has been the chief obstacle to raising plums, apricots and nectarines, *where there were trees.* We believe it is not known in Europe, though other species of the same genus there have their peculiar mode of annoyance.

Of the benefit of our circular tin troughs, we can say nothing decisive, because they were not applied till after the curculio had ascended the trees, and we jarred the trees that had those appendages, as well as the others. To the slaughter that we made of this insect in the early part of summer, we ascribe much of the abundance that our trees have yielded; and in confirmation of this opinion, we may mention that a tree in the fruit garden which had been forgotten, bore three apricots, while another young tree, of rather less size, bore half a bushel; and we know of no other reason for the difference.

Before this summer we had believed that the young curculio continued in the fruit till it fell, and only escaped from its habitation after it had lain for some time on the ground. Late observations, however, have shown that impression to be incorrect. We found both plums and apricots *on the trees*, from which the insect had taken its departure through a small orifice cut in the side of the fruit.

We have had some curiosity to ascertain the *whereabout* of the old curculio, after it had ceased to deposite its nits in the fruit, (which is said by Judge Darling of New Haven to be early in the seventh month.) We therefore spread a sheet under several plum trees, about the middle of the eighth month; and, on jarring them violently, caught several, though in far less number than when we last examined the trees about two months before. Indeed, under some trees where we most expected them, we found none. This failure, however, may have been chiefly owing to the hot weather, so favorable to the activity of all insects, and which doubtless enabled them the better to hold on. We hope to repeat the experiment in cooler weather. †

For the Farmers' Register.

PAPER NETS FOR CLEANING AND VENTILATING SILK-WORMS.

Believing this admirable labor-saving and ventilating apparatus to be the most valuable invention for that purpose that has been made since this noble insect was first domesticated, I should deem myself guilty of unpardonable neglect, if I did not urge its adoption on American silk-culturists. Before I describe these nets, the method of making and the manner of using them, I will make a short quotation from the 'Journal of the American Silk Society.' This will show the opinion entertained of their value in a country where the rearing of silk-worms is pursued as a profitable branch of husbandry, and where the management of silk worms is well understood. Persons unacquainted with the habits of silk-worms, are generally incompetent judges of the value of fixtures used for their accommodation. Hence thousands of dollars have been thrown away by inexperienced theorists, in the United States, for the purchase of fixtures that have ultimately been thrown away. By the way, I must state explicitly, that I have neither paper, laths or nails, for sale.

"It appears, from the pages of the 'Propagateur,' that the operation of cleaning the worms is now performed in all the principal French cocooneries by means of what are termed paper-nets (papiers filets.) It appears that nets made of twine were first used, but they are now universally superseded by these paper nets, which are much cheaper and are said to be better adapted to the purpose. I regret that I have not been able to find any description of these nets in the 'Propagateur'—all the communications take it for granted that the reader is already acquainted with their construction. As far as I can learn, however, from the different articles on the subject, I think they are made by punching a great number of small holes in a sheet of strong paper with an instrument constructed for the purpose. The inventor of this apparatus is M. Eugene Robert. In a letter to the editor of the 'Propagateur,' he remarks: 'The use of the *paper nets* in the cocoonery of Saint Tulle, and in a great number of large and small establishments in the neighborhood, has been attended with such entire success, that I will hereafter confine myself to a simple presentation of the testimony of those culturists who have made use of them, in order to recommend the adoption of my *economical* net.'"

I have now 250 paper nets in use; and after the *third* moulting they may be laid over the worms daily, if the culturist desires it, up to the time of mounting, and the worms may be kept as clean as the most careful could desire and with little labor. The nets must not be laid over the worms when they are torpid. But after the *third* and *fourth* moulting, when nearly all the worms are roused, they may be laid over them daily, and when the leaves are scattered over the paper, they will speedily extricate themselves from the litter, ascend through the holes, and commence eating. The nets may be used with or without shelves under them. If without shelves, they can be supported by parallel slips of timber, about twenty inches apart; if placed on shelves, they must be raised about two inches, by placing blocks of timber under each end.

These nets are made by providing a frame-work of light laths, three feet long and two wide (this size is most convenient); the two pieces of laths, three feet long, being united by three pieces, two feet long, one at each end and one in the middle. Holes, five-eighths of an inch in diameter, are punched in sheets of strong brown paper, three feet long and two feet wide, and these are pasted on the frames. The distance between the holes may be about an inch. With an instrument, called a *wad-cutter*, twenty sheets of paper may be punched at once. Double sets of these nets will cost but little more than shelves of rough plank; and if the frames are well put together with wrought nails, they will last more than 20 years. The paper would require renewing in every period of six or seven years.

From passages in the letter of Dr. J. S. Bell, in the 'Journal of the American Silk Society,' it appears that the use of these nets is rapidly extending in France; and as silk culture advances in the United States, I have no doubt they will be generally adopted. They accommodate themselves to the means of every farmer, who can buy a few dollars' worth of paper and nails, and who is capable of using the saw and hammer.

If this paper should be read by any who are *almost* persuaded to dig up their mulberry trees, I entreat them to spare them one or two years longer, and make trial of these nets, by rearing the worms from one or two ounces of eggs.

LAYTON Y. ATKINS.

P. S. My rearings of silk-worms during the past summer, have not been as successful as I expected when I wrote about the muscardine. I have now a large parcel, nearly ready to spin, that look very well. Such facts, drawn from the experience of the season, as may be deemed useful, I will communicate hereafter.

September 10th, 1841.

WHEAT AND INDIAN CORN IN FRANCE.

For the Farmers' Register.

Mr. Editor:—I place at your disposal some more translations from "Le Bon Jardinier;" relating to wheat and Indian corn in France.

Froment.—Wheat. Not being able to give here a work sufficiently extended on the different kinds of wheat, I shall content myself with merely mentioning some of the most valuable, and which are best known to me by the experiments which I have made. *Beardless winter wheat*, white wheat of Flanders, is one of the most beautiful of the varieties that are cultivated in France. *Blé blanc de Hongrie.* White wheat of Hungary is remarkable for the very round form of its grain. *Blé de Talavera* has been very much multiplied within some years in England. Its straw is tall, ear long, fine white grain of a long shape. *Blé de Haie*, hedge wheat, has a large head, the chaff of which is covered with down. This wheat was sent me from England, and appears to be a very fine kind. Although it was sent me under the name of hedge wheat, I am not certain that it is the same which is described under that name by Mons. Tessier. *Blé Lammas*, Lammas wheat, is red, forward and productive. It should be sown early, and will not succeed on moist land. It is apt to shatter, and requires on that account to be cut before it is entirely ripe. *Blé d'hiver barbu.* Bearded winter

wheat. Head very long, grain hard and heavy, straw large and yet apt to lodge. This wheat is remarkable for its great forwardness, and can be sown in the spring as well as in the autumn. It has a variety which is red and beardless, and which only differs from the bearded in these two respects. I owe both to Mons. Durand of Metz, a distinguished farmer. *Blé poulard blanc*, white poulard wheat. This grain belongs to the species of large bearded wheat called *poulards*, the grain of which is generally of an inferior quality and but little esteemed. But the white poulard is decidedly better in this respect than the rest, while at the same time, it has with them the merit of being very productive, both in grain and straw, and is more hardy than the finer wheat. Its straw is full and hard. *Blé bleu conique*, conical blue wheat, is one of this same species of poulards, and is distinguished for the great size of its grain and the abundance of its yield. *Blé de miracle, Triticum compositum*, or Egyptian wheat, is remarkable for its branching head, that is composed of many heads united in one large head. It has a very large round grain. Although this wheat has been at different periods very much extolled, and has the merit of being very productive, the culture of it is but little extended, because it is difficult to suit it with a proper soil, and it makes a coarse and indifferent flour. It is extremely apt to degenerate and to dwindle to a single head. The straw is full and very hard. *Blé de Pologne*, Polish wheat, is distinguished for the great length and size of its heads, the meshes of which are of an extraordinary dimension; it is also remarkable for the form of the grains, which are very long and as hard as glass. Its appearance causes it to be called Polish or Russian rye. This wheat is of a good quality, but I have always found it of a small yield. It can be sown in the spring, although autumn is preferable; in the last case it fears humidity more than the other kinds of wheat. It is less exacting than the most of them in respect to the quality of the soil that it requires. It succeeds quite well on sandy lands suitable for rye. The straw is long, full, and hard. *Froment de Mars, Triticum sativum vernum*, spring wheat. This grain is not cultivated as much as it deserves to be. If excessive rains, an inundation, or insects have destroyed, or very much injured the fields of wheat sown in the autumn, or if the farmers by an unfavorable and wet season have been prevented from sowing their grain, it results in a deficit sometimes considerable in the crop of wheat, which could be obviated by the different kinds of spring wheat, if their culture was more general and extensive than it is. This resource could the more easily be extended because spring wheat will grow on much land too light for those kinds sown in the autumn. Among the varieties of this grain we will name the following. *Froment de Mars á epi blanc, sans barbes.* White beardless spring wheat, is the most cultivated about Paris, but it is more frequently found mixed with the following kind than pure. *A épi blanc barbu*, white bearded, is a little more forward than the preceding. *Rouge sans barbes.* Red beardless. A variety which I have received from the north, and which appears to be very good. *Carré de Sicile*, red, short, stout and beardless. *Trimenia barbu de Sicile* is forward and yields well.

Blé Fellemberg, straw and head as long as in the winter wheat. It is subject to shatter and for that reason should be cut a little before it has matured.

Blé Pictet, is a variety of the preceding; its chaff retains the grain better and it is equal if not superior in other respects. *Blé d' Odessa et de Taganrock* have in the numerous experiments made in France succeeded generally very well. It is however difficult to class them, because most frequently the parcels imported under these names have been found to be a mixture of many varieties. That which predominates resembles the *Trimenia barbu de Sicile.*

Blé de Cap, Cape wheat, has a nice, yellow, hard and full grain. In my experiments in 1822 it withstood the drought better than almost any of the other kinds of wheat.

These different grains should be sown in the middle of April, and if necessary even on the first of May, but they should not be sown so late as that through preference. Those which have appeared to succeed best when sown so late are the *white bearded*, he *Carré de Sicile* and the *Trimenia barbu.* For many years there has been recommended under the name of *blé de Mai* (May wheat) a variety of grains which are said to be sown in that month with entire success. Some comparative experiments have proved to me that these are only the spring wheats already known, and I am convinced that we passes no wheat exclusively adapted to late sowing and which really merits the name of *blé de Mai.*

Epeautre, Triticum spelta, spelt wheat,* is on account of its hardihood a useful species in cold and mountainous regions, or in very tenacious lands, where it succeeds better than any others. Flour from the spelt wheat is superior to all other, but the grain is very difficult to extract from the chaff.

There is a spring variety which is esteemed in some parts of Germany; it is called *Epeautre de Mars.*

La petit Epeautre, Triticum monococcum, is equally remarkable for the facility with which it grows on indifferent lands, even on those suitable for rye. It is the plant cultivated in some cantons under the name of *Riz sec*, (dry rice.)

Mais, Blé de Turquie, Blé d'Indie, Indian corn.

The utility of this grain for man and beast is well known. Corn delights in good ground, but will grow tolerably on those of an inferior quality, which however must be manured. It may be planted from the end of April, to the last of May, at pleasure, in straight rows about three feet apart, and about two feet apart in the row. Some plant it closer in the row, but then it is necessary to increase the distance the other way. They give it two or three workings, placing fresh earth about the plant at each, and at the last they hill it up entirely. They pull off the shoots and suckers that come near the root. They cut the tops above the last ear after the fecundation has taken place, which is known to be the case when the pistils which hang from the top of the ear, like a silken beard, become dry and black. These parts taken

* This is the principal wheat of Saubia and the north of Switzerland, and is also a good deal grown in Spain.

off make excellent food for the cattle. The maturity of the ear is readily discovered by the dryness of the envelope which encloses it. They then get it up at a dry season, cutting the stalks; it is put in a granary, or what is better if the year has not been a warm one, they tie it in bundles, and hang it up in the sun, or in a covered place, that it may become as completely dry as possible. The cultivation of corn has the advantage of *ameliorating** the land, by the diminution of the waste lands *(jachères)* and by the frequent ploughings and weedings that it requires. The varieties of this grain are very numerous, they are of all colors; those most esteemed are yellow and white. The most common corn in France is yellow and has large grains. They cultivate in the department of Landes a beautiful white corn with an ear stouter and more conical than the afore-mentioned variety. It is more forward, and of an excellent quality. There has been recommended in the last four years a Pennsylvania corn, apparently more forward than ours, and on that account is of more value to our centre departments. I have received lately from the United States, under the name of *Sioux* corn, a variety similar to the preceding, but with ears and grains much larger. Also a pearl corn, white, very small and very nice, but ripening badly and which appears peculiarly adapted for forage on account of the great quantity of stalks and leaves. Among the earliest varieties we will mention the two following as the most worthy of notice.

Maïs quarantain, quarantine corn, is not so tall, and not so productive as the common corn, but much more precocious; for instance, in Piedmont it comes to maturity when planted in June and July on the stubble fields from which a crop of grain has been reaped. This quality permits it to be cultivated much more to the north than the larger varieties, and renders it truly interesting to our country.

Maïs a poulet. chicken corn. We owe this pretty kind to Mons. le Comte Leileur who brought it from America. It differs from the last named in that it is smaller in all its parts, and still more precocious. The smallness of its grain and the use to which it is put are indicated by the name. In respect to its product, it cannot be compared to the *quarantain*, but it possesses in a still greater degree, all the advantages attached to a remarkable precocity, which renders it truly valuable. These two varieties should be planted thicker than the larger species.

In the northern parts of France, corn, considered only as forage and without any view to the gathering of the grain, offers one of the most precious resources imaginable, for green food in the stables of oxen, cows, and even horses. By planting it successively, every fifteen or twenty days on the waste lands, from the first of May to the middle of July, they procure during three or four months an abundance of the best green food that can be grown. It is necessary for this to manure the land in the spring, or the corn in the hill. Plant it in rows about two feet apart, and with the plough and the hoe care should be taken to keep the land in perfect order, in which case an excellent crop of wheat may be obtained after this crop. It should be cut when the male flowers (the tassel) begin to show their points at the top of the plant, and you may continue to cut after it is in full tassel. If there is a superfluity of it, the surplus should be dried, and will make a good food for cattle in the winter. I cannot, after my experience, too highly recommend to farmers this mode of using corn, which adds to the advantage of maintaining the cattle for many months, that of a great augmentation of manure.

PRESERVATION OF BUTTER.

From the Agriculturist.

Henry Wood, of England, has transmitted to the council of the Royal Agricultural Society, a jar of butter, as a specimen of the successful mode adopted for its preservation when the article is intended for export to foreign climates.

Mr. Wood informed the council that this butter had been prepared on the 19th inst., according to the process adopted in eastern countries, where it was used for culinary purposes instead of hog's lard, which the Mahometan law prohibited, and would keep for any length of time in a perfect state of preservation, although it contained no salt, or other additional substance. This preservative state of the butter was induced by the removal of scum, and the dissipation of the watery particles of fresh butter, effected by the *gentlest* possible application of sufficient heat to produce the result. Mr. Wood stated that in Asia this gentle heat was obtained by the natives by filling a large open earthenware pan with powdered and well-dried cow-dung, and then setting fire to it, introducing into the midst of the burning cow-dung an earthen vessel containing the butter, which became melted; and when the scum, as it rose, had been successively removed, and the watery particles driven off by the heat, it was poured into a jar, and preserved for use. Mr. Wood suggested that a sand-bath, properly regulated, might answer the same purpose as the dried cow-dung, and as the process was so very simple, there could be no difficulty in preparing it; and that, when once prepared, the butter never "became tainted." Mr. Wood stated that he carried with him to the Cape of Good Hope some butter prepared in the same way, at Col. Skinner's farm at Hansi, to the westward of Delhi, a year previously, and which was pronounced by the agriculturist, Mr. Duckett, and others, to be superior to the salted butter of the colony; and, for culinary purposes, far superior to lard.

INCOMBUSTIBLE WASH.

From the Franklin Farmer.

Slack stone lime in a large tub or barrel, with boiling water, covering the tub or barrel, to keep in all the steam. When thus slacked, pass six quarts of it through a fine sieve. It will then be in a state of fine flour. Now, to six quarts of this lime, add one quart of rock or Turk's Island salt, and one gallon of water. then boil the mixture and skim it clean. To every five gallons of this skimmed mixture, add one pound of alum, half

* This does not tally, I think, with the experience of Virginia corn planters.—TRANS.

pound of copperas, by slow degrees add three fourths of a pound of potash, and four quarts of fine sand or hickory ashes sifted. We suppose any kind of good hard wood ashes will answer as well as hickory. This mixture will now admit of any coloring matter you please, and may be applied with a brush. It looks better than paint, and is as durable as slate. It will stop small leaks in the roof, prevent the moss from growing over and rotting the wood, and render it incombustible from sparks falling upon it. When laid upon brick work it renders the brick impervious to rain or wet.

NOTES ON SANDY POINT ESTATE. NO. IV.

To the Editor of the Farmers' Register.

Sandy Point, October 3d, 1841.

I had purposed in this communication to have given you an account of the stock of cattle, hogs, &c., on this estate, but have delayed it until present arrangements are more fully matured; and, in place, proceed to give a few memoranda connected with the wheat crop, sown in the fall of 1840, and reaped 1841. Ploughing upwards of 400 acres of clover and weed fallow for this crop (covering of vegetable growth heavy, and land of good quality,) was begun on the 25th of July, and finished on the 19th of September; (during this period wheat thrashing had to be performed, which of course caused necessary delay in fallowing). The whole was performed by three-horse ploughs. With very little exception, the season throughout was dry, and the larger proportion of the ground consequently dry and hard, which very greatly increased the labor and time occupied in this important operation. The whole was, however, finished in generally good condition; heavy harrows, having 25 teeth, passing over and levelling the whole, going once or oftener over the ground as its condition might require. In addition to the above quantity of clover and weed fallow, were 36 acres of oat fallow, the oats having been ploughed under early after ripening. On 20 acres the crop of oats ploughed under was very inferior, as was also the after growth. On the other 16 acres the crop was heavy, and the second or volunteer growth thickly and regularly set, but, in consequence of the drought, was short.

Sowing wheat was begun on corn ground on the 10th of October; the weather and ground being very dry, induced some days' delay, in hopes of having rain. On the 13th left off sowing on corn ground, and commenced on fallowed land. No rain fell until the 20th of the month, when we had a refreshing, and much needed, but moderate rain, which greatly facilitated our operations; and again on the 29th, a heavy fall of rain, which entirely retarded all operations connected with sowing, for a day and a half. On the 9th of November sowing was completed. On clover and weed fallow were sown 380 bushels of mountain purple straw wheat, and 315 bushels of "white turkey" = 695 bushels. On oat fallow were sown 34 of purple straw and 42 of white turkey = 76 bushels. On corn ground were sown 192 of purple straw and 281 of white turkey = 473; being in all 606 bushels of mountain purple straw, and 638 of white turkey wheat = 1244 bushels, the total quantity sown. All the wheat before being sown, was previously washed, light grains skimmed off, and then rolled in lime. With the exception of 20 acres of fallowed land and about 40 acres of corn ground, where the land was previously ploughed, and the seed sown and covered with the heavy harrow, the entire crop, both on fallow land and corn ground, was first sown and then covered with two-horse mould-board ploughs, followed by heavy harrows as frequently as occasion might require. The wheat was thus deeply covered, and I think suffered much less injury from the frequent frosts and thaws of winter and early spring, than that merely covered by the harrow in the usual mode. Water furrows were carefully opened, and the whole left in as good condition as could be obtained. Sixteen two-horse ploughs and seven harrows, having three yoke of oxen to each, occasionally aided by an extra harrow and two horses, were employed during the whole time of sowing, and occupying in all 24½ days, being an average of rather more than 51½ bushels of wheat per day. The wheat, with the exception of the sowing of the last two days, vegetated freely, and presented a beautiful and regular appearance. The exception above stated presented little appearance of vegetation for some weeks, the weather having been unfavorable, nor did it present a promising appearance until the following month of March. So far as could be observed, there was no fall attack of Hessian fly. The winter, as will be recollected, was unusually wet, and, in consequence, on some portions of the wheat injury was sustained, particularly in bottoms liable to be flooded by each successive heavy rain; but altogether it stood the winter remarkably well, and at the end of March the general appearance of the crop was very promising. The rains and cool weather, which prevailed during the early portion of April, caused the crop to assume a generally yellow appearance. From the 24th of that month until the first of May, the weather was mild and favorable, and which soon restored the crop to a healthy and vigorous appearance. After that period frequent frosts occurred, with cold north and north-west winds, which again inflicted injury on the crop, nearly all the extremities of the leaves being killed, and imparting to the whole a yellow tinge. About the 3d of May, Hessian fly made its appearance on most of the wheat sown on corn ground, and by the 10th of the month, was found generally over the whole crop. From this date, however, the wheat began most rapidly to improve, and by the 17th presented a pleasing and gratifying appearance. The flowering season passed over under highly favorable weather, affording every prospect of a profitable and remunerating crop. It was at this period of its growth estimated that the then probable return from the crop would not fall below an average of ten bushels for one bushel of wheat sown, and the uniformly promising appearance of the crop certainly justified such an estimate. Several gentlemen, who had opportunities of seeing the crop from this period until harvest, estimated the probable return at a much higher rate. The sequel of this communication will show how far such expectations were realized. The weather was now very favorable to the properly maturing of the crop, but from the above date to the 24th of June, (when harvest was begun,) frequent showers occurred, as also warm, damp and cloudy weather,

during which rust made its appearance in several portions of the crop; but, as far as could then be judged, not to an extent likely to prove very serious.

I will here add a daily journal of our harvest operations, which will perhaps best show what were the hopes and fears induced during this interesting operation, and which you may either include or omit as you may judge proper.

June 24th. At half past 7 A. M., commenced wheat harvest, on Upper Quarter, with 27 cradles, the necessary gleaners and a sufficient number of hands for shocking. Wheat sufficiently ripe, and presenting a fair crop generally; some of it heavy; all on fallowed land; wheat, mountain purple straw. Progress, after getting over the usual delays of a beginning, satisfactory; weather warm, moderated by a gentle breeze from the south. Evening slightly clouded; increase of wind; indications of rain.

25th. A shower of rain early in the morning, prevented our resuming reaping until half past 8 A. M. Wheat still damp and unfit for shocking. Twenty-seven cradles employed. With the exception of about two hours in the evening, the entire day, from frequent showers and continued cloudy weather, was highly unfavorable for harvest operations, causing several protracted delays. The wheat cut to day was chiefly the white turkey, on corn land at Rowe, and the earliest sown. A portion of this was a heavy growth, the larger proportion a medium crop, the sample of grain good, straw generally short. Rust had slightly injured a small portion in a bottom, where the wheat was not so fully matured. Only a small portion of this day's reaping has been shocked up. A heavy shower stopped all work about half an hour before sunset; night weather still clouded and threatening.

26th. Started reaping this morning at half past 8 o'clock. Having added our ploughing force of 15 hands to aid in harvest operations, the number of reapers were increased to 33 cradles, and to aid in shocking, were frequently reduced to 27, in order to avoid wheat getting wet from passing showers. Operations of this day were confined to turkey wheat on fallowed land at Rowe. The crop apparently excellent, much of it of very heavy growth; the sample of grain also looks well. A considerable space of ground has this day been gone over. Wheat fully ripe; all shocked as reaped. The whole of the crop is now ripening rapidly; probably not less than 300 acres are now fully ripe. The weather continues extremely unfavorable for harvesting this valuable crop, and causes deep anxiety as to the safety both of what is reaped, (a portion of which is not yet shocked,) and that which is yet standing. Add to this that where not fully matured, wheat is becoming seriously affected by rust; and if this unfavorable state of weather should continue, the most serious injury is in many respects to be apprehended.

27th. Sunday. First half of this day, continued showers. Cleared off at noon; evening clear, with a good drying breeze.

28th. Morning, slight dew; resumed reaping at sunrise on Brickhouse lot, fallow, of 20 acres; purple straw wheat; crop very heavy. Reaped also House lot of 20 acres, after corn; purple straw; crop here also good, but seriously affected by rust. Reaped also that portion of the crop near negroes' quarters, of 16 acres, white turkey wheat, after oat fallow; crop here very heavy, portions of it much lodged, and some injured by rust. From 32 to 36 cradles were employed. Of the 56 acres reaped to day, from its generally superior growth, there may reasonably be expected an average yield of from 25 to 30 bushels per acre; the appearance of the grain is good. The weather throughout the day has been most favorable for our operations; for three hours in the evening, very hot. The laborers, however, stood their very hard labor well, and in good spirits. The weather has now fortunately become promising and favorable, and I hope may continue so until we finish.

29th. Began reaping this morning at sunrise, on Upper Quarter, fallow field, purple straw wheat; from 37 to 40 cradles employed. Wheat of this day's reaping rather light, but quality of grain apparently good; all shocked up. The weather to-day has been clear and warm; a few hours very hot. Laborers suffered considerable inconvenience in consequence; four reapers became unwell and unable to work during a portion of the evening, three of them hirelings who began this morning. A large portion of ground has been gone over to-day, I think not less than 90 acres, all of it less or more injured by rust, yet the grain looks plump and good. Wheat now very ripe. A gale of wind would now do serious injury to the larger proportion of our uncut wheat. And nearly all is fully ripe, and is the cause of much uneasiness, as it ripens faster than it can be cut down, rapid as is our progress.

30th. Thirty-three to thirty-eight cradles employed to-day. Finished reaping at Upper Quarter early this morning, and resumed reaping white turkey wheat on Rowe lot; the crop here excellent. The whole of this day's reaping very ripe, and all shocked up as reaped. The weather all day clear, dry and very warm; laborers suffered considerably.

Hussey's reaping machine was received early this morning, accompanied by himself, and after some little delay was got into operation about 3 P. M., and after a short trial and some experience on the part of the laborers and teams employed, performed its work beautifully. Cleaner reaping I have never seen. That portion of the crop, on which this first trial was made, was of a fair medium growth, (our heaviest wheat having been nearly all reaped,) in which, including several delays from the awkwardness of the hands employed, it very nicely reaped fully at the rate of one acre per hour, laying the wheat in nice and handsome sheaves for binding. All the operations connected with reaping it performed infinitely better than that done by the cradles.

July 1st. Began reaping on fallow wheat on Rowe; 34 cradles employed. Nearly all of the wheat of this day's reaping has been rather light, for two hours in the evening the growth was heavy. The whole would average a fair crop; quality of grain good. A quantity of wheat remained at night unshocked. The whole very ripe and liable to very serious injury, in the event of rain or high wind. Our harvest operations are now hastily drawing to a close. The weather to-day has been very fine, though very warm; towards night slightly clouded and rather cooler.

Hussey's reaping machine was again started

this morning so soon as the dew had dried off, and after some little delay, caused by a bolt becoming loose and dropping out, performed its work admirably. After reaping the piece of wheat where first tried, it was put to reaping a heavier growth, which it performed with great facility and neatness. Three horses were harnessed to it, with a driver, a raker, and eight hands to bind up the sheaves. So far as the trial has yet progressed, it fully promises to come up to the anticipations formed by the inventor. The quantity of ground gone over to day is nearly equal to one acre per hour, and it is evidently capable of performing from one-third to one-half more, as the laborers become more efficient.

2d. Finished reaping at Rowe this morning at half past 10 o'clock, and began on the Neck farm a little before noon, and finished before sunset. On the corn land on the Neck farm, the crop was light and more infected with rust than any yet reaped. The grain did not look much injured, so far at least as could be judged by the eye. On a portion of oat fallow ground, and which on the preceding year (1840) was considered too poor to produce a corn crop, but on which lime had been applied in the fall of the year previous to sowing wheat, at the rate of 96 bushels per acre, never have I seen the benefits of lime more strongly exhibited. The growth was here heavy, and was judged would yield 25 bushels of wheat per acre. From 35 to 38 cradles were employed during the day, and a large portion of ground has been gone over. The weather throughout the day was warm, but not so oppressive as for several days previous. A shower early in the evening passed over the upper portion of the estate, but none fell where we were reaping.

Hussey's reaping machine was again started this morning, but had performed very little work when the large propelling wheel became loose, and shifted its position, and before it could be again put to rights, caused the loss of a half day's work. After remedying this defect, the machine performed well for the latter half of the day.

3d. Early this morning a heavy shower of rain; before which got up all reaped wheat into shock. Forty-two cradles started reaping, as soon as the shower passed over, at Teddington; and, after some partial delays from rain, finished reaping all, with the exception of about one acre, left for reaping with Hussey's reaper, on Monday. The weather throughout the day has been very unfavorable for harvesting; and, from nearly continued slight rain all day, nearly all of the wheat cut is yet to shock. Our harvest operations may now be considered as nearly completed, and on the whole have been satisfactory. After deducting delays from rains, during the first three and this last day, the time occupied will be about eight days. The laborers, including hirelings, have wrought well and cheerfully. As was to be expected, amongst so many negroes, frequent reproofs and admonitions were necessary; it is, however, a gratifying retrospect that in no instance was corporeal punishment deemed necessary, or inflicted. The crop has proved, so far as can now be judged, a good one, and I gladly hope may not subsequently disappoint in its expected results.

5th. Finished reaping remnant left with Hussey's reaper, which performed well. All wheat now shocked up, presenting a total of 2501 shocks, judged to average from 4 to 4½ bushels each.

Thrashing out of this crop was begun by two machines respectively on the 21st and 24th of July. With the exception of occasional showers at night, the weather proved favorable until the 9th of August, when a succession of heavy rains and cloudy warm weather occurred, until the 16th, causing a delay of five days, and during which period the wheat in the shocks, where exposed, sprouted considerably, exciting serious fears of a heavy loss from that cause. The weather and condition of the wheat having again become favorable, thrashing was resumed and continued until the 21st of August, when completed. During this operation the extent to which rust had prevailed, over nearly all of the crop, was alarmingly exhibited. Never have I seen as much rust in any crop; every portion of the barns and laborers employed presented the appearance of having been heavily powdered with red lead, and where left to accumulate undisturbed, could have been taken up in handfuls, frequently causing sickness and vomiting among the laborers. These appearances, together with the rapidly increasing piles of straw, and slowly increasing bulks of wheat, too plainly foreboded a serious falling off in the crop. The following results will show to what an unexpected extent these fears were verified.

	Bushels.	
Sold of white turkey wheat	$2697\frac{3}{60}$	$=4931\frac{32}{60}$
" purple straw "	$2234\frac{30}{60}$	
Retained for seed of white	600	$=1600$
" " purple s.	1000	
		$6531\frac{32}{60}$

In the above statement are not included 85 bushels of sprouted wheat, nor a small quantity of inferior wheat, which may yet be fanned out from tailings. It presents, however, a truly mortifying result: being at the low average of $5\frac{107}{638}$ bushels for one sown of white turkey wheat, and $5\frac{304}{608}$ bushels of mountain purple straw for one sown. During harvest and the operation of thrashing, the prevalence of rust excited fears for the result, but no idea was entertained of such a falling off. Since I have been in Virginia, I have not seen a crop which altogether presented so promising an appearance before and during harvest, nor have I ever seen a result which fell so far below reasonable expectations. The causes producing such a result were evidently beyond human control; rust, in my opinion, being altogether, or very nearly so, the sole cause, though Hessian fly was generally over the crop, as also chinch bug in some places; yet, so far as could be judged from frequent and careful observation, they effected little or no injury. The white wheat weighed per bushel from 56½ to 58½ pounds, the purple straw from 58 to 61½ lbs. The heaviest white wheat was from limed land, on clover fallow, and the heaviest purple straw from fallowed land, but which had not been limed. The results, low as they are, are in favor of the purple straw variety, though not, in this instance, to an extent which would warrant the giving to it a decided preference, but yet sufficient to have induced our altering of the amounts of each variety retained for seed this fall; as during the reaping and thrashing of the late crop, it had been concluded to reserve 900 bushels of white wheat, and 700 bushels of purple straw for seed, as it was then considered that the former variety was likely to prove the most productive. The results, how-

ever, proving in favor of the latter variety, 1000 bushels have been reserved, and 600 of the former. There appears to me to be a want of practical information as to the best, most productive, and profitable varieties of wheat. Could you not induce some of your experienced correspondents to furnish some information on this matter of importance? Too late now, for this season; but would be valuable in future. I could mention the names of some gentlemen who could well furnish such information; but as the introduction of their names by an individual so humble might look like presumption, I leave the request for others more influential, and none more so than yourself. If I have not already exhausted your patience, and occupied too much of your space, you shall soon again hear from me. A. NICOL.

CULTURE OF THE TOMATO AND THE INDIAN PEA.

To the Editor of the Farmers' Register.

Among the multitude of matters both in agriculture and horticulture which are well worth knowing, but still unascertained, I have thought it might be useful to invite the attention of our brethren to two, wherein all of us are more or less interested: I mean the culture of the tomato and the Indian pea. Both are favorite vegetables on all southern tables; and both, especially the latter, are very valuable for other purposes. There is no leguminous plant yet known to us, comparable to the Indian pea for feeding stock; and many farmers believe that, when fed in the dry state, they will fatten either horses, cattle, sheep or hogs, sooner than Indian corn. The ripe tomato is greedily devoured by all domestic fowls, and cows will eat the vines with great avidity—to say nothing of the good medicinal qualities imputed to the fruit. These are facts, I believe, which all will admit. Yet, strange to say, I have never yet met with any farmer or gardener who had ever taken the trouble, little as that would be, to ascertain how either tomatoes or peas could be rendered most productive; or which among our numerous varieties of the latter ripens the soonest; or which will yield most; or how many bushels per acre may be calculated on as the average product from ordinary land, of any one variety of the whole.

The usual management of the tomato is, to rely on volunteer plants, which will certainly produce degenerated fruit in a few years. These plants are set out in vacant spots about our gardens, where they are suffered to grow with little or no culture, and without frames or sticks to support them. Now there are very few if any of us who do not know perfectly well, that the vines when properly supported, in good garden ground, and planted single, about four or five feet apart, according to the fertility of the ground, will grow to the height of five or six feet, and produce far better than in the common, careless, slovenly way. But none of us, I believe, has yet troubled himself to ascertain how much more a single vine so treated will yield, than one left as usual, almost to take care of itself. Country gardeners, perhaps, will deem this of little or no importance, for they always assign to the kitchen garden more ground than enough for their families, if they would only learn to economize space, in this particular. But surely, in towns, where gardens are necessarily small, the difference between the product of a well supported and cultivated vine, and one left to spread on the ground, is well worth ascertaining. Judging from my own observation, and the information obtained from others, I believe that a single vine supported by sticks four or five feet high, or by a frame of the same height, which may easily be made by four or five upright sticks, about 15 inches apart each way, with a twine string passed spirally around them five or six times, and tied at each end, would produce nearly or quite double the quantity that another vine would which was left without support. Bridgman, in his "Young Gardener's Assistant," asserts that "a single vine has been known to produce upwards of a bushel of fruit." At this rate, or even at three pecks per vine, half a dozen of them occupying no more than 32 square feet, would produce an abundance for a whole family of ordinary size. This excellent vegetable is now seen on almost every table, whereas it was hardly ever used fifty or sixty years ago. Then, it was generally called "love-apple," from ignorance, perhaps, of its other name. But even now, there are some who are still very wide of the mark, in aiming to hit its foreign title, "tomáto," for they pronounce the word as if it were spelt "chu-mar-tus-iz."

The Indian pea is still more valuable than the tomato, since it is not only prepared by many for the table, but, as a marketable article, some of its numerous varieties, of which I myself know at least twenty,* sell readily at an average price of

* Eight of this number bear the general name of "*crowder*," from the circumstance of their growing so much closer in the pod than the peas of a long shape like the snap-bean, that each perfect pod contains usually about one-third more peas than an equally perfect pod of any of the long-shaped varieties. Of the crowders I have seen the following kinds, viz.: the black, the white with black eyes, the pale, yellowish clay colored, the gray, the sugar, the purple hull, the claret colored, commonly called the red tory pea, and the small, reddish-yellow crowder. Of the other varieties, (not crowders,) I recollect four that are white with black eyes, and varying chiefly in size, the largest being considerably larger than any other pea I have ever seen. There are two kinds which may be called white, but less so than the four first named: one has a pale greenish eye, and with us is called the North Carolina pea; the other is of the same shape and size, but has a reddish eye. Then there are the white and red mottled pea, the cow pea, the black tory pea, the small lady or gentleman pea, and the green or Chickasaw pea, which is the smallest of all, and the only one whose vines do not run. Hence they are preferable to all, where the purpose is to use pea vines as a green dressing. Each of the above-mentioned varieties has several local names, which I do not recollect, or I would give them, as it might make all the kinds, perhaps, better known than my general description. For instance, one of them (the gray crowder) I remember to have heard called "the Jefferson pea," although that gentleman probably knew as little of Indian peas, as he did of many other agricultural matters, having been nearly all his life engaged in the public service. But the title, I presume, was bestowed from that same degrading, contemptible species of man-worship which has, at different times, conferred the name of every president that we have since had, on gentlemen's hats, boots and shoes, and on ladies' caps, bonnets, shawls and ribands, &c.

one dollar per bushel. When, moreover, we estimate its fattening qualities for stock, its superiority on land too poor for clover, to any thing yet tried among us as a green dressing for the soil, and the fact that no kind of long forage is better for farm horses, mules, cattle and sheep, than the pea vines properly cured, as they easily may be, we surely ought to take more trouble than any of us, I believe, have yet taken, to ascertain every thing in regard to this highly valuable plant that can be certainly known about it. For instance, we might certainly ascertain which is the earliest of all the varieties that are cultivated in Virginia. We might also ascertain with certainty, by a few comparative trials, which of all the varieties was most productive; and how many, or nearly how many bushels, on an average, each kind would yield per acre, when cultivated in ordinary land. Another point, too, which is of some importance, at least in the garden culture of the Indian pea, might readily be determined, and this is, the difference in quantity between the vines stuck like pole beans, and those suffered to run on the ground without support. I have reason to believe that the former would produce double, and from a smaller surface of ground. This practice would be too expensive for field culture, but certainly it would be far preferable in a garden, for a small square in Indian peas would then yield full as much, and probably more, than one of the same size in pole beans.

The old adage, "*de gustibus nil disputandum*," there is no disputing about tastes, forbids me to make any positive assertion as to which variety is best for eating. But I will venture to add, for the benefit of those who may not possibly have met with the particular variety which I have called the North Carolina pea, that every person I have ever met with who has tried it, prefers this kind to all others. A gentleman from that state informed me the other day that the same preference is given to it there also. For my own part, I deem all good, and I have tasted all, except the black and red tory-pea, and the Chickasaw. This being the only one whose vines do not run, is best for a green dressing to land, as they can more easily be ploughed in than any running vines. They will grow in land of medium quality, to the height of about four feet, each plant throwing out numerous long, succulent branches, the leaves of which are uncommonly large, and when planted from three to four feet apart each way, with two or three stalks in a hill, they will completely cover the ground, as soon as they attain their full growth. This they will not do sooner than some time in September, as they ripen late, and of course should be planted early.

I will close this letter by a brief statement of a method of curing the vines, recommended to me by one of your old correspondents, the late Mr. Herbemont, of South Carolina, a gentleman highly distinguished, as you well know, for his intelligence and zeal in the cause of American husbandry. This is the method: pull up the vines when fully grown, expose them to the sun until they are somewhat wilted, but not dried; then stack them in alternate layers with straw, either of wheat, oats, or rye, sprinkling a little common salt on each layer of the vines, and top the whole with a sufficient quantity of straw to prevent the stacks from leaking. This process converts the layers of staw into a provender nearly equal to the vines themselves; and the whole soon becomes a richer long forage for farm horses, cattle, and sheep, than any kind of hay or corn-fodder; and may easily be made on farms destitute of meadow land. The vines of all the varieties of Indian pea might be thus cured; and since all will produce, on poor land, a heavier growth than any other plant which we could cultivate for hay, *on such land*, no farmer need ever to want long forage enough for his stock, unless he keeps more than he ought to do. But this is an error, that almost every Virginia farmer commits; and what is most remarkable is, that none are more guilty of it, than a large portion of those who declaim most against the practice. Thus endeth all that you will hear at present. from your old friend,

JAMES M. GARNETT.

P. S. Our eastern brethren, I believe, are generally ignorant of what we call Indian peas; for none of the varieties are cultivated in any of the eastern or northern states, at least I have never seen any growing farther north than Maryland. That they would succeed well in a higher latitude seems to me highly probable, and I am sure they would be much valued, as a vegetable for table, were they once introduced.

TOMATO TART.

From the Boston Cultivator.

A lady sends the editors of the Saturday Courier the following recipe for making tomato tart:

"Roll out your dough very thin, and place it on the plate in which you intend baking your tart, and slice your tomatoes very thin, spread them over the dough very thinly, take about two table spoonfuls of brown sugar, and one of ground cinnamon bark, spread the two over the tomatoes, bake it well, and you have a delightful tart.

A TRAL OF FATTENING QUALITIES OF WOBURNS AND BERKSHIRES WHEN FED ON THE SAME ALLOWANCE.

From the Kentucky Farmer.

"There was put under my care on the 13th August, by Dr. Martin and James F. Taylor, two Woburn* and one Berkshire sow, for the purpose of being fed; and I received directions to give each one five pounds of corn a day, and to increase the quantity until I should find what quantity the smallest eater of the three would consume.

On that evening, I gave to each one of them two and a half pounds of corn, and the next day five pounds each, and on the 15th, nearly six pounds each; one of the Woburns (Patience) failed to eat all of her allowance, and the next day was very lame, (I suppose slightly foundered,) and their food was again reduced to five pounds each per day, until the 20th, when Pa-

* Mr. Duncan, who first accepted the proposal, was sick at the time, and his sow had met with some accident, so she was not fed.—M.

tience having recovered, it was gradually increased so as to give each one fifty-two pounds of corn in the ten days, when they were weighed, and the following is the result:—

Mr. Taylor's Black Berkshire sow Belinda, gained - - - 21 lbs.
Dr. Martin's Woburn Patience, gained - - - - - 21 "
Dr. Martin's Woburn Courtenay, gained - - - - - 30 "

JAMES WEATHERS, JR.

Clarke County, Ky., Aug. 23, 1841.

A PHENOMENON IN GRAFTING.

From the Yankee Farmer.

Van Mons, one of the most intelligent horticulturists that ever lived, once tried an extraordinary experiment in grafting; that of inserting an *entire tree* on the stump of another.

A neighbor having in the spring season cut down an apple-tree, about fifteen feet high, which Van Mons considered a desirable kind, and a good healthy tree, he immediately selected a stock of similar dimensions, and cutting it off near the ground, placed on it, by the mode of *peg* grafting, the foster tree; supported the tree by stakes; and excluded the air from the place of junction, by plastering it with clay, and afterwards heaping earth around it. The experiment succeeded perfectly; the tree becoming in the course of the *second* season nearly as vigorous as ever. This experiment was more curious than useful, but as a fact in natural history it is deserving of notice. Few men would probably succeed in the attempt.

CULTIVATION OF THE PINE ON THE SHORES OF GASCONY.

From the New England Farmer.

Economy is the welfare of states, as of individuals. By economy, in its best and widest sense, is meant that just and wise distribution of means and efforts, which, out of the given conditions, produces the largest sum of good and happiness.

To spend little, is but one and a very meager branch of economy—in many instances no economy at all. In states, especially, to gather much is at all events equally important. When we look around upon the world, survey the numbers in want almost of their daily bread, while the earth given to man to be subdued and rendered productive by the labor of his hands, is still, in an infinite number of cases, totally without culture, and *never*, with a few rare exceptions, producing what it is capable by skill and industry of being made to produce, it is impossible not to believe that our knowledge of the science of political economy is in its very infancy—its true principles little practised or understood. Man is seen on all sides in that most affecting of all situations, willing to labor, crying for the privilege of being allowed to work, starving in want of the merest necessaries of life, while the bounteous earth is spread around him, offering her liberal rewards for labor, and not finding hands.

What inexhaustible mines of wealth, yet unexplored, does the surface even of our own well-peopled and well-cultivated British islands present; what sources of riches, strength and happiness lie buried in the bogs of Ireland alone!

Soils far more ungrateful have, by a judicious and economical culture, been made the fruitful source of wealth and felicity, and perhaps there is no contemplation more useful and agreeable, than that of such a picture.

The manner in which sand hills, such as those which, covered with wiry grass, line many of our shores, have on the southwestern coast of France been rendered useful and productive in a high degree, is a striking example of well-directed and successful efforts of this nature.

In the departments of the *Gironde* and of the *Landes*, on the shores of that stormy ocean which raves between the mouth of the Gironde and Bayonne, the most magnificent pine forests are at this day waving, where not many years ago was nothing but a dreary and threatening desert of sand.

These forests cover an immense extent of land round Teste and the basin of Arcachon, and might be extended so as to cover the whole of the above mentioned coast, an extent of sixty French leagues, or about one hundred and fifty English miles.

Teste and the basin of Arcachon will be found, on consulting the map, to lie on the shores of the ocean, in the southern part of the department of the Gironde, from which the department of the Landes extends southwards. Every one in the least acquainted with French geography has heard of the Landes; of those immense level plains—and has pictured to himself their dreary monotony—their shepherds elevated on stilts and wrapped in gray sheep-skins, leaning upon their staffs, and watching, motionless, the flocks scattered over the measureless pasture.

The force of the western wind has raised upon this coast, as upon many others, hills of sand, from thirty to sixty metres in height, (a metre is something more than an English yard.) The French give these sand hills the name of *Dunes:* they are composed entirely of the dry sea sand, driven inwards in various places, as upon some of our own coasts.

These sand hills having attained a certain elevation, fall—are driven forward by the wind, and invading the plains behind them, menace the Landes with inevitable destruction.

Populous towns have fallen victims to the advance of this slow, but as it was long thought, irresistible enemy. The Dunes advanced annually, and the gradual destruction of the productive plains might be predicted with mathematical certainty. Even the city of Bourdeaux itself seemed doomed, sooner or later, to perish under this deluge of sand.

This state of things at last excited public attention, and towards the end of the last century, the means of arresting this fatal progression were sought for, and, as is the usual consequence of being sought for, found.

A man of the name of Bremontier, we do not know whether he is yet living or not, imagined a method of staying the plague, and of rendering this element of desolation and despair a source of wealth and population. He formed and executed

the project of covering these moving hills with forests of pine (*le pin maritime,*) the roots of which, by conglomerating together these light particles, and forming them into heaps of solid earth, might fix them permanently in their place, and arrest their further progress.

Fifteen thousand *hectares* are now covered with the pine: those plantations which date from the time when Bremontier began his operations, now present to the eye, in place of the desolate sand hills, magnificent forests, waving majestic above the restless ocean.

The *Dunes* extend sixty leagues, being in breadth from three quarters of a league to three leagues: the hills are intersected by valleys, called in the country *Ledes.*

The trees are raised from seeds, cast on the spot on which they are intended to grow—they are not transplanted: when the seed is sown, the moving of the light sand is prevented by covering the ground with brambles or young pine branches, fifteen hundred faggots of these being necessary to cover one hectare: the seeds are sown thick, and when the young plants are of seven or eight years, the first thinning is made. If there were any means of cheap transport, these thinnings, sold at Bourdeaux, would be extremely profitable. After this thinning the remaining plants grow with increased vigor, and in ten years reach the height of fifteen to twenty feet; at the end of twenty-five years they produce turpentine. A hectare of pines produces this article to the value of from 25 to 60 francs, (that is from £1 to £2 8s. sterling,) according to the age of the plants—a pretty considerable profit from land, which were once an unprofitable, and worse than unprofitable desert.

REPORTS OF THE MASSACHUSETTS AGRICULTURAL SOCIETY.

The answers of Abel Moore, of Concord, to the questions proposed by the Massachusetts Society for the promotion of Agriculture.

1. My farm contains about 130 acres, exclusive of woodland.

2. The soil consists of sand, gravel, peat and loam.

3. To reply in general terms, I consider the best method of improving my lands to consist in an interchange of soils; that is to carry the peat and mud from the low and wet land to the light upland, and in return, to carry the sandy loam on to the peat land and bogs. This method I have uniformly found to be beneficial. Both lands are benefited by the exchange. Each seems to supply what the other lacks. A few years ago, I had, in the midst of a piece of mowing land, a sandy knoll, entirely barren, containing about half an acre. This I covered with refuse peat, and sowed grass seed with rye. This grass immediately took, and I have had a good crop of grass on it for three years without manure.

4. I till about 16 acres, and put from 20 to 40 loads of compost manure on an acre, depending upon the kind of crop.

5. My manure is usually applied in a compost, but sometimes for potatoes it is applied in a green state.

6. Sometimes I spread and sometimes I manure in the hill.

7. I turn the sod over as flat as possible and roll it down smooth with a heavy roller, then harrow it, spread on the manure, and harrow or plough it in lightly.

8. I mow from 5 to 6 acres of upland, which yields about two tons of hay to an acre. The great bulk of my English hay grows upon reclaimed peat or meadow land, which I do not call upland.

10. I manure all my English mowing [artificial grasses] about once in three years. I put about 25 cart loads of compost manure to an acre. I seldom make use of any except compost manure, and for the last four years I have purchased none, but made it all on the place.

11. I mow from 25 to 30 acres of low meadow land, part of which is situated on Concord river. The quality of the hay cut on this land is nearly one half of it swail hay, which is very good and spends well; the remainder is common meadow hay, some of which is of an ordinary quality. The quantity of this kind of hay is about forty tons. The greater part of this swail hay grows on the meadows that I have partially reclaimed, but do not manure.

12. The better to explain my answer to this question, I must be permitted to say a word with reference to the situation and former condition of my farm. It is situated about half a mile east of the Concord meeting house, on the great road leading to Boston. Its extent on the road is perhaps a quarter of a mile. On the north side of the road it runs back over the hill from three quarters of a mile to a mile. On the south side, with the exception of about two acres, it embraces all the piece of flat land lying between the great road and the turnpike, and perhaps 25 acres on the south side of the turnpike. The greater part of this land I purchased in 1825—6. After I had purchased, I found that I had on my hands a large quantity of unproductive land, part of which would produce nothing, because it was so wet and marshy, and the rest would produce nothing because it was so dry and sandy. The land back of the hill, where I now have some 30 acres or more occasionally under cultivation, was so much run out, that it was hardly considered worth cultivating, and a neighbor, who had the use of it one year, paid me no rent, because it was not considered worth any. It is true, that it sometimes produced blackberries, but if the season happened to be dry, even these could not be relied upon. The flats in front of the house, where I now cut my English grass, were composed of swamps covered with bushes, miry bogs, and pond holes, full of lily pads and flags, where the muskrats and bull frogs seemed to hold undisputed possession,—while on the higher land, the woodchucks made their burrows unmolested. This is not mere fancy. I once set an Irishman to clear up some bushes and briers there, and he was actually driven off by one of these animals. Between these bogs and the hill, there was a little strip of upland, which might have produced hay enough to keep a horse and cow, (I do not think it did more,) and this I verily believe constituted the most valuable production of the *Prescot Farm* as it was then called.

My first object was to render this land productive; but how to do it was the question. I had no works on the subject, and all the information I could get was what I could occasionally glean from the New England Farmer. One thing was evident, that the land must first be drained. There was a grist mill in the centre of the town, supplied by a stream that run through the land. I exerted myself to get this mill discontinued and it finally was discontinued. This however was insufficient to drain the land. In 1827 I commenced ditching it, and cut my ditches so low that the water would flow back to the head of them; that is, I commenced digging at the lowest part, and dug so low that the water would follow along after. I take especial care to level and slope down the banks of my ditches, so that now the grass grows down to the water's edge. This effected the object so far as draining was concerned, but it did not bring it into English grass. This was the next thing to be effected, and to do it I have tried various methods. I thought that I might plant a crop of corn and potatoes, and then lay it down to grass; but this did not work well, as most of it was too miry to be ploughed, and the ground even after bearing a crop would not become firm. I tried burning, but this did but little good, except to rid me of the bushes. Indeed, I once felt fearful that the fire would communicate to the peat below, and burn up the whole meadow.

Convenient to this meadow there is a hill composed of sandy loam. I carted on some of this, manured it, and sowed grass seed. This answered the purpose. The ground very soon became firm, the grass seed took, and the yield was altogether beyond my expectations. This plan I have pursued ever since, and it has now grown into a system with me. My whole method consists in this. I first ditch and drain the land, cut off the bushes, and if they are large, pull them up by the roots, and level it down, then spread on about 400 cart-loads of sandy loam upon an acre, and 20 cart loads of compost manure, harrow it well, and (usually in the month of September,) sow half a bushel of herds-grass and a half a bushel of red top, harrow again, and roll it down smooth with a heavy roller. Should the wild grass make its appearance, as it sometimes will after five or six years, I turn it over after taking off the crop, give it a top-dressing of about 20 loads of compost manure to the acre, sow grass seed, harrow and roll it down as before. I have one piece which has been reclaimed 12 years. It has not been manured since it was first laid down. The wild grass has not yet made its appearance, but it still continues to bear as great a crop as ever.

This land has been reclaimed at odd jobs, when my men and teams could not do other work to advantage—some of it in foul weather, and much of it in the winter. Indeed I was obliged to do much of it in the winter when the meadows were frozen, on account of the mire. I verily believe that the first two crops have, in every instance, repaid the whole cost and expense of reclaiming.

I have now from 20 to 25 acres, which have thus been reclaimed, (not including some 8 or 10 acres of swail hay, partially reclaimed, as stated in my answer to question 11.) The success that I have had may be judged of by the value of the crops produced. Every year since this land has been reclaimed, whether wet or dry, it has produced on an average not less than three tons of English hay to an acre, which brings the highest market price. In 1838, at the request of Mr Colman, the Agricultural Commissioner, I weighed the first crop of hay on one acre of this land, and it weighed 7610 lbs. About three acres of it during the present season I have no doubt produced five tons to the acre. It was mowed twice, and the second crop was so large that it was considerably lodged. One other fact may be stated. A few years ago I built a barn 30 feet by 40, and some of my neighbors laughed at me for it, and said "it is a good barn, but what are you going to fill it with?" That barn, as Mr. Allen has seen, together with one 40 by 80 feet, which I have since built, as well as my others, are now full, and I shall soon have to build more, or else stop reclaiming peat meadows. This land during the present season has produced from 75 to 80 tons of good English hay, and it certainly affords no little satisfaction to be able to obtain such crops from land which fifteen years ago produced nothing.

13. I have planted about 6 acres of corn during the present season. On 3 1-2 acres, the soil being very light, I spread from 20 to 25 loads of compost manure to the acre and harrowed it in. This produced about 30 bushels to the acre. On the two acres, which was better land, I put the same quantity of manure per acre, part spread and part in the hill. This produced at least 65 bushels of very handsome corn to the acre. On one half acre I raised 40 bushels of the handsomest corn that I ever saw. It was the Brown corn, which is the earliest and best corn that I have. The seed was not prepared.

14. I planted between 3 and 4 acres of potatoes in one field. I have others around the cornfields, but how many I am not able to tell. They were all planted in hills and manured in the hill. They were ploughed and hoed twice. I am not able to tell the quantity per acre, but I raised about 1500 bushels in all. The kinds were the Chenango, long red, St. Helena, Rohan, and some white. The long reds and Rohans were the most productive.

15. The other vegetables that I planted were

1-2 an acre of carrots,	which produced	450	bushels.
1-4 ' ' sugar beets,	' '	320	'
1-10 ' ' mangel wurtzel,	'	165	'
1 acre of ruta bagas,	'	200	'

This same acre was planted with ruta bagas last year and produced 1132 bushels, which shows the utility of a rotation of crops, so far as this vegetable is concerned.

In addition to the above, I have of turnips which grew in the cornfields, 225 bushels, and 12 cart-loads of pumpkins, besides 22 bushels of onions and other garden vegetables.

These vegetables are mostly fed out to the cattle and swine.

16. I sowed three acres of barley, half an acre of tea wheat, and one acre of oats in the spring with grass seed. The quantity is not yet ascertained, as the grain has not yet been thrashed. One and one-third of an acre of buckwheat, which produced 30 bushels. Two-thirds of an acre of Indian wheat, which produced 21 bushels. I used no lime with any of it, except the tea wheat.

17. I have laid down 1 1-2 acres to grass, sowed about the first of June without grain. I put half a bushel of herds-grass seed and half a bushel of red top to an acre.

18. I make my manure from loam, peat mud and litter put into the hog sties and barn-yard. Part of my hog sties are situated under my barn, so that all the manure from the cattle and horses in the large barn is dropped into them. When taken from the sties it is mixed up with loam and peat mud in heaps, where it remains until wanted for use.

16. I keep 7 yoke of oxen, 13 cows, 4 young cattle, 4 horses, and no sheep. I winter 33 head of cattle, but in the summer part of them are sent into the country to pasture.

I have 4 barns; one 30 feet square, one 30 by 40 feet, one 30 by 70 feet, and one 40 by 80 feet, with a cellar under the whole of it. In this cellar are part of my pig sties and manure, which of course is covered.

20. My cows are mostly native, though some are a mixed breed.

21. I am not in the habit of raising calves.

22. I have made 600 lbs. of butter. From the first of November to the first of June I sell my milk. I make no cheese.

23. I keep no sheep.

24. I keep from 50 to 75 swine. I raise pigs to sell. I fatten about one ton of pork. My swine are nearly all a cross of the Berkshire and Mackey. I have one breeding sow of this breed, 7 years old, which has raised 111 pigs in 11 litters and is now just ready to pig again. One full blooded Mackey 4 years old, which has raised 8 litters of from 8 to 10 at a litter. My swine were originally obtained from E. Phinney, esq., of Lexington. I am now about erecting a piggery with boilers set, &c.

25. During the summer months, I feed my swine upon weeds, which are freely thrown into the pens, slop from the kitchen, skimmed milk, (particularly for the pigs,) boiled potatoes, apples, pumpkins, carrots and Indian meal, all boiled together, I use the same kind of food to fatten them, with the exception that it is thicker and contains a greater proportion of meal. I occasionally, particularly when I wish to have them root and work over the manure in their pens, throw them a few ears of corn.

26. From all my hog sties I take not less than 700 cart-loads of manure per year, part of which of course comes from the cattle and horses. The quantity of manure made on the place during the past year, was not less than 1200 cart-loads.

27. I employ sometimes only two and sometimes eight hands on my farm. I have paid during the past year $750 for labor, but it was not all confined to farming—$200 should be deducted for other work.

28. I have 150 young engrafted apple trees and 50 old ones partly engrafted, mostly with winter fruit. Some of my apples I boil up for the hogs.

29. I have 10 pear trees 6 quince, 6 cherry, 6 crab apple, 8 plum, 10 peach and 1000 young trees of various sorts in a nursery.

30. My trees for several years have not been troubled by canker worms, and not at all by borers.

31. I do not allow the use of ardent spirits on my farm, nor do I intend to hereafter, although I did last summer till the latter part of August.

The above statement is as accurate as I can make it, and I think it nearly correct.

All of which is respectfully submitted.

Oct. 26, 1840. ABEL MOORE.

Wm. Salisbury's statement.

1. My farm consists of 130 acres, exclusive of woodland, and embraces loam, clay and some peat, or, as we call it, meadow.

To reclaim my meadow lands, I find it necessary to drain them, and invert the sod by the plough or some other implement, in such a manner as to completely kill out all the wild grass: when that is accomplished, I carry on a compost made of as fine loam as I can obtain—say from 12 to 25 loads to the acre. My meadows are generally so soft before I get them brought into grass, that I cannot go on to them with a team except there is frost in the ground. I therefore prepare my compost in summer or fall, and heap it up pretty well, so that I can take it when the meadow is sufficiently frozen, and carry and spread it on the meadow; and when the frost gets out 2 or 3 inches, I go on with a good pair of horses and sharp harrow, and harrow till I make the surface as smooth as I can get it. I then sow on oats or some other grain, and give another harrowing. I then sow on about one peck of herds-grass, half a bushel of red top, and as I commonly raise my own clover seed and sow it in the chaff, I do not know how much seed I put on; do not think we often hurt land by sowing clover seed on it. My upland I prefer to stock down in the fall, as I can then turn the stubble under, which I think is of service to the ground: I sowed two pieces on my meadow last spring; the one I harrowed after sowing the grass seed—the other I did not; and the piece that was not harrowed took the best. I sow southern clover seed on my land in the spring; the next season it will be ready to cut early, which I do, and lay it up for my milch cows. The second crop will usually start up very soon, and with me, as it will commonly fill with seed, I let as much of this crop stand till it gets ripe, as I think I shall want to sow the next spring. I do not think it good policy to sow clover seed in the fall as the frost would probably kill it out. On the lands I laid down this fall, I intend to sow clover chaff next spring. After cutting clover intended for seed, I let it lay on the ground about a week, to take the dews and rains, which will render it much more easily thrashed. I have been thus particular, thinking that the method of saving clover seed might not be understood by all my brother farmers in this section of the country.

I have tilled this season about 18 acres; I usually put on about 20 loads of manure to the acre, where I spread it, which I generally prefer to do. I usually mix meadow mud with all my stable manure: my straw manure I usually cover up in potato hills. I have usually carted my manure on to my grass land that I intended to plant to corn, and as I plough my land with what is commonly called a side-hill plough, and turn the furrows all one way, I have but one row of heaps spread at a time, preferring to cover it before it dries. The land that I intend to plant to potatoes I plough before I cart the manure on; then spread and harrow well, and cover the manure nearly all up when I plant.

There was so much said last year by a gentleman at the south, about its being the best way to put the manure on the top of the land, which has always been contrary to my theory, that I this

year caused three loads to be spread upon the top of the land and well harrowed in, and three loads ploughed under as usual, and staked the land out (equal quantities) and planted it to corn; the result this year is in favor of turning the manure under; but it remains to see which piece will produce the most grass and hold out longest; which it will take several years to determine.

I mow about 25 acres of upland. I think I cut from 1 to 1 1-2 tons per acre. I have no land that I can irrigate, except some low meadow, which I flow by means of dams that I cause to be made by ditching and laying the sods and mud above the ditch. I put down my gates in the fall before the swamps get full, and keep them down till April. The last year was the first of my experiment in this way. I therefore cannot so well tell what the result may be, but I think it will be favorable, as there appears to be considerable sediment settle. I do not manure the land that I irrigate. I put compost manure on meadow land that has been reclaimed, say from 12 to 20 loads per acre. I mow about 20 or 25 acres of low land that is not suitable for the plough; on that part which I have properly reclaimed I cut from 2 to 3 tons per acre of a good quality; on about 10 acres that I have not improved, I should think that I did not cut more than half a ton per acre; and that not worth half as much per ton as that which grew on the reclaimed meadow. (My method of reclaiming low bog is given in the previous part of my statement.)

I have planted 3 1-2 acres of corn this season. Some part of the ground was prepared by spreading manure on the grass and turning it under; on about one acre of which we also put a small quantity into the hill; on some we ploughed the land and spread manure on the top and harrowed it well. When I plough the manure under, I put about a gill of ashes round the corn after it is up: on the two pieces where I planted for experiment, I put ashes equally alike on both parts. I plant my corn without soaking. From 3 1-2 acres of corn we husked 300 bushels of ears, which we think will yield 150 bushels of shelled corn. The principal part of my corn this year was planted on low moist land. On one fourth of an acre of good corn land containing 680 hills, we spread 8 loads of stable manure and ploughed it in, and put about 3 loads in the hill: the corn was planted near the house and the fowls injured it some, but we husked 1368 pounds in the ear, which would be but a fraction short of 19 bushels, allowing 75 pounds to the bushel, on about one quarter of an acre.

We planted about 4 acres with potatoes, they are not all dug, and of course I am not able to state how much they will yied to the acre. My manner of planting I have heretofore in this report stated: I plant calico, orange, pink-eyes, lady-fingers, blues and long reds.

I planted this season to ruta baga, English turnips, cabbages and carrots, about 1 1-2 acre: they are not all gathered yet—of course I am not able to say how many bushels I shall have. I do not think I have made it profitable to raise turnips this year: my carrots look better. I also sowed nearly an acre of corn for the purpose of feeding to cows when the pasture grew short: I this year found it very convenient. I expect also to feed out my turnips and carrots principally to my milch cows.

I sowed about 14 acres of ground this season. I sowed rye, peas, rye and oats mixed together for feed for hogs; rye and oats also, and barley. The peas, rye and oats sowed very early: rye I also sowed the first part of April; the barley I did not sow till some time in May: I sowed about one bushel of rye to the acre; about two of peas, rye, and oats, and about two and a half of barley. I last fall ploughed up about 2 1-2 acres of grass land, that was too wet to hoe; I rolled the land down, and in the winter and spring I carried on from 15 to 20 loads of compost made by my hogs and spread it, and sowed on about two bushels per acre of peat, rye and oats mixed together, and harrowed it in and sowed on my grass seed, and it now bids fair to produce a crop of good hay another year: the land that I sowed my rye on I did not plough in the spring, as I did not wish to disturb the sod that was turned under last year; I went over it with the cultivator. The land that I sowed barley on I ploughed this spring. Did not raise wheat this year.

I have laid down 14 acres to grass this season, on 8 of which I sowed the grass seed in the spring at the time of sowing the grain, and on 6 acres I sowed it by itself this fall about the first week in September, (quantity of seed stated before.)

My means for making manure are meadow mud, loam from the road side, leaves, &c. Method of making manure: first my barns stand a little elevated; the yards form a gentle declivity. I have ploughed and taken out the earth near the lower side, also raised the lower part so that the hole would probably contain about 20 loads of muck or loam; I fill that with meadow mud or loam, as best suits my convenience; when taken out, which I do about twice a year, if filled with mud, carry it on to upland; if with loam, carry it on to the meadow. Below the yard I have excavated another hole, which I fill also; and when there is enough water to run out of the yard, I conduct it with spouts over any part of the place that I wish. I used to be in the habit of cleaning up my yard every morning and putting the droppings from the cows into a pile and throwing mud or loam over them; but have for two years past adopted a different method, which I think augments my manure very much; every morning, Sunday excepted, I throw about two shovelfuls of mud or loam over every dropping of a cow, and by this means I not only save the droppings, but also a great part of the urine. I have also dug under my stables and carried the dirt on to my meadow, and now fill under them with meadow mud; also lay as much mud as is convenient under the barn windows where I throw out my manure. I have also dug into the side-hill and placed my hog pen in such a way that my hogs lie almost under ground: have dug the yard down so as to make it level; laid a bank wall 6 or 8 feet high on the north side of my yard, and made a road round so that I can drive and tip as many loads of any thing that I wish into the yard as I please; I do not, however, at this season of the year put more than one or two into the same yard at a time. I also deposite back of the hog yards large quantities of mud, and as soon as it begins to thaw in the spring I begin to shovel into my hog yard and cover up the droppings of my hogs. I have also dug a hole a short distance from my house that will contain 12 or 15 loads of meadow muck, and with

spouts from my sink spout and back door, I conduct all the waste water and suds over the deposite.

I have kept this summer and through the last winter 4 oxen, 12 cows, 6 two years old, 9 yearlings, 2 horses, 1 colt, no sheep.

I have one barn 82 by 30, one 52 by 30 feet; one barn built by my predecessor, for sheep, which I have converted into a hay and stock barn, 60 by 20 feet: have no cellar under them, except as stated above; have a shed between two barns, under which I put meadow mud and throw the manure from two stables.

I have been for a considerable time trying to improve my breed of cattle by mixing English and French with the best natives I could get.

Those calves which I intend to raise I let suck two or three days and then take them off and learn them to drink. I have this year raised six calves, which I have pastured. I have also kept for my neighbors seven cows nearly all the season. We have this year milked two old cows, seven 3 years old, and one 2 years old that calved in July. My family are pretty numerous, and of course make use of considerable milk. We have made up to this date 465 lbs. of butter and 40 cheeses—a small proportion of them new milk; nearly all of them better than four-meal cheese.

I have kept no sheep for some years. I usually keep one breeding sow, and have her produce one litter of pigs, say in March or early in April, which I usually kill the next winter for my own use: she will commonly have another litter by August or September; these I keep over winter and fatten the next winter to sell. I killed ten last winter; the oldest weighed I think from 225 to 300; the shoats weighed from 200 to 225. I have also endeavored to improve my swine by mixing with the best breed that we can get in our section of the country. We have had in this neighborhood a boar from Mr. Phinney, of Lexington, so noted for keeping good hogs: the probability is if we had his corn chamber too, it would improve our pork very much. I have fenced off with boards about 2 1-2 acres of the thickest part of my orchard, and let my hogs have access to that from spring till about September, which I think helps the hogs and orchard too, very much: my hogs have been in but two or three years, and many of my apples have nearly doubled their size in that time, and are less wormy. My hogs, with the wash from the house, get their living in my orchards: in number six old ones and four pigs that came the first of March. After shutting them up I feed them with raw pumpkins and apples as long as these last; I then boil or steam potatoes a while; I then mix some provender with them; at last make a pudding of corn and peas, rye and oats ground together; also occasionally give them a little corn in the ear.

I make from 60 to 75 loads of manure per year: in the season for it, I cut what brakes I can find on my farm and cart into the hog yard; get turf and loam from beside my walls; and use meadow mud; I suppose I have now from 3 to 500 loads of meadow mud thrown out, ready to cart or sled, if I want it, all the coming season.

I have employed this season one man for four months, for which I paid $12 50 per month; one other youngster 18 years old, for 8 months, for which I paid $10 per month; I also have a grandson about the same age that lives with me all the year, and a small boy 10 years old. I am not able myself to do hard word; do not mow, chop or shovel; but can put up the bars and spread hay.

Have about 400 apple trees, most of them grafted; my winter fruit goes to market, except what we want for family use. The ordinary apples are principally given to my hogs in a raw state, but are sometimes ground in my cider mill, when a little provender is put with them and they are suffered to ferment; which mixture the swine eat very greedily. The last year we made but about two barrels of cider, which more than supplied us for the year.

I have about 20 pear trees, as many peach trees, some plums, and some cherries.

My trees have not been attacked by canker worm. I think I have lost a few peach trees by the borer. I sometimes dig round my peach trees in the spring and put ashes about them.

We do not use ardent spirit at all as a drink on my farm.

In conclusion, the subscriber would say that he came on to the farm eleven years ago; found it very much run down; the pasture all run over to alders and bushes, some of them 6 or 8 feet high; the meadow very much run over with hassocks; from one half acre we took off 25 heaping cart-loads. For several of the first years I could not raise my bread nor fodder enough to keep my cattle, summer or winter. I have now pretty much subdued the bushes; fenced off ten acres of the pasture; tore up the alders and bushes; manured the land and converted it into productive mowing fields; have eradicated the principal part of the hassocks on the farm, and reclaimed a considerable portion of my unproductive meadow, as your agent will see. I have had to work my passage, as the saying is, almost against wind and tide: I had to run in debt for a considerable part of the farm, and without means to buy much manure, I have had to make it principally from the materials which a wise Providence has so amply provided. On a farm so large as mine, I do not think it so much an object to raise a large crop on a small piece of land, as to make a large piece of land productive.

All which is respectfully submitted by your ob't. servant,

WM. SALISBURY.

Groton, Oct. 21st, 1840.

THE OYSTER TRADE.

From the Baltimore American.

The extent of the oyster trade in this city cannot be ascertained from any exact returns or estimates, since no account is kept of the quantities annually brought for sale to our market. But that it is a business of considerable importance, may be known from the large number of vessels employed in it, from the vast quantities sent every year to the west, and from the extent of the domestic consumption, which is perhaps greater here than in any other city in the union. Oysters are also sent in considerable quantities to Phila-

delphia and New York in a *legitimate* way; to say nothing of the cargoes which are carried off by marauders—interlopers from the north, who pounce down upon our testaceous settlements with drags and raking irons, contrary to the act of assembly in such cases made and provided.

The fine quality of the Chesapeake oyster is well know. Persons who have eaten no other oysters than such as are native to the Delaware bay, the Jersey coast, or the waters neighboring to New York, have no adequate idea of the true nature of this fish. We make no attempt to account philosophically for its superiority; the fact is enough. But there seems to be some peculiarity about the waters of the Chesapeake and its tributary streams—a peculiarity, whatever it may be, which epicures should hold in high veneration. Where else is the *canvass back* to be found? or the *soft crab* in its best estate? or the *terrapin?*

But to return to the oysters. The trade in this commodity between Baltimore and the west is carried on with great activity in the winter season. A species of vehicle has been constructed for this particular purpose well adapted for speed as well as for burden. Let it be on record that oysters, on their route to the west, have beaten the mail stages. We shall probably hear before long that terrapins have done the same.

With the opening of the rail-road to Cumberland the transportation of oysters westward will become a still more extensive business. There will always be a demand for them over the mountains—a demand that must ever outrun the supply. For the people of the west are not only people of taste, but there is also among them a traditionary regard for the oyster—a sort of hereditary respect transmitted from the first settlers, who could not omit to place this fish first in the place of luxuries which they had left behind them when they bade adieu to tide water to take up their abode in the great interior *where there were no oysters.* Of course the fish was much talked of in domestic circles; his uncouth appearance so unlike that of other fish—perhaps the question was mooted whether he was a fish or not—and all this kind of speech to those of the rising generation who had never seen an oyster, together with the fervid description of his choice flavor, so superior to that of any other delicacy, could not but enhance the reputation of the animal to a most extraordinary degree.

In view of the probable increase of the trade in this article it becomes a matter of some importance to inquire into the best means of preserving the oysters in their native beds from undue destruction—also for increasing their quantity and keeping a constant supply. We notice in a Boston paper that much care is devoted to this end in some places along the North Atlantic coast. At Wellfleet, near the extremity of Cape Cod, there is considerable trade in oysters, although they are not native to that locality. The oysters are mostly obtained from Staten Island, Little Egg Harbor, and sometimes from the Chesapeake and Delaware bays. They are selected of small size and planted; and after some seven or nine months they are taken up and carried to market, having increased during that period to a size sufficiently large. About thirty vessels, averaging 40 tons each, are employed a portion of the year in this business. The time for planting is during the months of March, April and May—but in this latitude it might be earlier.

If the farmers, country gentlemen, and others, living on our Chesapeake rivers and bay side would take a little trouble in this way, and plant out large beds of the best oysters, there is no doubt but they would find their account in it. During most of the year good oysters will bring in this market seventy-five cents a bushel—a better price than corn. The trouble of planting is very little—as nothing more is required than to drop the oyster on the bottom in any selected, convenient place. There is not a resident on the bay and its rivers that might not add handsomely to his income by taking a little pains in this—besides always having for his own use a ready supply of the choicest product of our waters.

POISONING WOLVES.

From the Union Agriculturist.

Walworth, W. T. July 24th, 1841.

Sir,—As this section of country was much infested with wolves during the winter of 1839, I gave to a neighbor who had lost a cow, a few grains of strychnine (made from the *strychnos calabrinum,*) instructing him to cut out small baits, and insert into each, under a flap cut very thin, 1-8 of a grain of the poison. The body of the cow was drawn to a convenient spot on the banks of our Lake, and the prepared baits dropped at different distances around the carcass. The stratagem resulted in the death of six wolves besides a number of foxes, rackoons and birds of prey. When these facts became known, I had many applications for the article; and so uniformly successful were these trials, that I can enumerate twenty-six wolves and one panther which have been destroyed by the strychnine, (only 60 grains,) which I furnished that winter. One farmer in this town had $40 bounty for the wolves he killed with but one dollar's worth of the poison. In this case the flap was sowed down with *colored thread,* so that on opening the stomach he knew his own bait again; and was thereby enabled to take the necessary oaths for obtaining the bounty. It is a good practice, under all circumstances, to sew down the flap over the poison, lest the animal should taste and reject it; (it is exceedingly bitter;) but then the flap should be as thin as possible, that it may the sooner come in contact with the nerves of the stomach. Strychnine causes death solely by its action on the nerves, and therefore no traces of phlogistian, or even of cerebral congestion can be discovered on dissection.

Winter is the most convenient season for using this poison to advantage; not only on account of the bait being more easily obtained, and kept, and the animal more easily tracked to the spot where he finally falls, (this varies from one rod to one mile,) but also because the poison is more fatal in cold weather.

Strychnine may be made from any of the *strychnos* family of plants, but the best is made from the *St. Ignatius bean,* or the *Upas trente* of *Java.* That which is made from the *nux vomica* is comparatively weak, requiring half a

grain to kill a wolf; but as it is more easily obtained, I will describe the method of extracting the strychnine from it.

Boil four pounds of the nut in two gallons of water as long as possible without burning; strain and evaporate to the consistence of molasses; add lime enough to saturate the acid, and set the strychnine free; dissolve this last in alcohol, and evaporate till the salt is crystallized. In this manner the poison may be obtained with very little cost, but such as consider this process rather troublesome, can send to some wholesale druggist where a tolerable article can be had for three dollars per drachm of 60 grains. It may be kept any length of time, and is not injured by exposure to the air.

I will now close, by stating my conviction, that should but 60 grains be purchased and properly used, by each town in Wiskonsin and Illinois the ensuing winter, sheep might be pastured in the thickest woods, without risk, the following summer. J. MACNISH, M. D.

From the Southern Agriculturist.

REPORT OF THE COMMITTEE OF THE BARNWELL AGRICULTURAL SOCIETY, ON THE CULTURE OF COTTON.

Read at their annual meeting, on 11th November, 1840.

In reporting on the cultivation of cotton, the great difficulty with the committee, has been to determine what topics to exclude, so as to be as brief as is requisite for the occasion. To discuss, *at large* the different qualities of soil, best adapted to this plant—the various methods of preparing the land, and planting—the working, gathering, and preparing for market—the making and applying manures—the rotation of crops, raising stock, and management of negroes—all of which might be embraced, as intimately connected with the subject—would be more fatiguing than improving. The committee prefer to touch only here and there, upon these topics, and at the risk of appearing somewhat desultory and unconnected, will refrain from a full and systematic investigation.

It must be premised, that there are two very different plans of applying labor to the culture of cotton, both of which are followed successfully, as is supposed, in our district. These may be called the upper and lower country system, from the sections in which they originated, and are in general use. The one goes upon the principle of economizing labor, by applying animal power, and developing the full resources of the soil: and where provisions are easily made, and land abundant, it has been found to work well. The other dispenses, as much as possible, with animal power, economizes in provision, and husbands for a future generation the vigor of the soil—or *aims to do it*. Both include manuring, as much as can be done conveniently, but more is propably done by planters who adopt the latter. That more cotton is made by the up country plan, experience has demonstrated beyond question, in both sections: whether it is made more cheaply, and (what is most important,) brings more clear money to the pocket of the planter, depends so much upon the particular circumstances of each individual proprietor—the character and extent of his land—the adaptation of the climate to provision crops—the number and training of his laborers—and his own tastes and habits, that it is almost impossible for any general rule to be laid down. One of your committee has used and discontinued the lower-country system, the other has done the same with the up-country one. Perhaps it is worth the while of every individual, to make the same experiment once in his life, and we recommend it particularly to all, who are unsuccessful under their present system, whichever it may be.

Your committee agree, that with any kind of culture the mulatto pine-land, (as it is commonly called,) with a clay bottom, is the best in our section of country, for cotton, or perhaps any thing else. The Indians, even, seemed to have agreed on this; for most of the Indian old fields, are of this kind of land. It has been lately analyzed by Professor Shepard, at the request of the Agricultural Society of St. John's, Colleton, and found to contain a large comparative proportion of carbonate of lime from which, no doubt, its fertility in a great measure results. The clay bottom to this, and all other land, is certainly an advantage, as it assists in preserving the salts of manure, and to keep up, in ordinary seasons, a due degree of moisture. In very wet ones, such as this, however, it retains too much for the light soil above, and in very dry ones, such as the last, it seems to arrest the moisture which might otherwise arise from the depths of the earth. This land and any land, is better for cotton, when a little undulating. The sun, the great chemical agent in vegetation, has then more effect on it.

The ground cannot be too well prepared for cotton. If it has rested one year, it should be broken flush, as early in the previous fall as possible, and bedded just before planting. If it has rested two years, or been planted the preceding year, let it be listed, as early as it can be done, and two furrows thrown upon the list. Immediately upon planting let two more furrows be thrown up, and the balk broken out completely. The common method of running three furrows, and planting on it, throws the winter's portion of the crop-work upon the laborer, during crop time, and is inexcusable, unless heavy clearings are absolutely required. The reason for not listing after one year's rest is, that the vegetable matter will be too abundant, and too coarse to form a substratum to receive the tap-root.

Cotton should be planted early. It may increase the difficulty of getting a stand, and give the plant for a long time, a puny appearance, but every stalk of cotton, planted in March, or the first week in April, that survives, may be readily distinguished, in any field that has been replanted later. It bears more, and earlier, and stands all the vicissitudes of June, July, and August, better. There are several methods of planting. Your committee recommend planting in spots, regularly measured by the hand dibble. It is somewhat tedious, though less so than generally supposed, and certainly does not take as much time as both to drill and chop out; nor is time so valuable at that period, as when the latter operation is required, while a better and more regular stands may be secured. There is no land, or but little in our district, in which cotton rows should be over three feet apart, or the cotton further than fourteen in-

ches in the drill—one plant in a place. To make a large crop, there must be an abundant supply of stalks. When the weather is too wet to plant, time may be often saved, by dropping the seed, but not covering until the ground is drier. If, however, it cannot be covered in three or four days, it is time lost, for it must be replanted. Always cover lightly, under any circumstances. And always plant on something of a bed, in any land. It keeps the cotton drier and affords more air when it is young. It enables yon to get at it in working. By increasing the surface, it absorbs more moisture, if it is too dry; and gives out more if it is too wet, and in both cases gives you the advantages of a vertical sun, on the tap-root, which hastens the maturity of the bolls—a vast desideratum in our climate. On this account the bed can hardly be drawn too high at the last hoeing, in any season.

In cultivating cotton, whether with the plough or hoe the chief object is to keep down the grass, which is its greatest antagonist, bringing all, or almost all other evils in its train. It is not so essential in the opinion of your committee, to keep the ground stirred, as is generally supposed, and by no means requisite to stir it deep—at all events not in our light soil. If it be well prepared, deep ploughing is not only unnecessary for any of our crops, but often highly injurious to them, while it rapidly exhausts the land, by turning it up fresh, under a burning sun. Much unnecessary pains is usually taken, and time lost, to work the plant in a particular way, under the supposition that it is a peculiarly delicate one. If it survives its infancy, few plants are hardier. It is often found to reach maturity in the alleys, where the mules walk, with the ploughs following and the laborer tramps backwards and forwards. Sometimes it will bear fruit in turn-rows used frequently for wagons, while it really seems to derive benefit from being bitten down almost to the ground by animals—it will bear almost any usage, better than it will that mortal enemy—grass.

The most critical operation in working cotton is *thinning*. It should be done with great care, and if early, with the hand. In a dry year, it cannot be done too soon after the plant is up. In a wet one, it may be profitably delayed, until it has begun to form, or later even. On the experience, observation, and judgment of the planter, in this matter, every thing depends, as each year brings its own rules with it. Where circumstances are favorable, early thinning is of course the best. Some planters always top their cotton. Others never do. Your committee are of opinion, that it seldom or never does harm, to do so. But whether it is worth the trouble, is a doubtful question. Those who have no clearings, or other important employment for their hands, would lose nothing, by devoting three or four days to this operation early in August. Those pressed for time, might gain by omitting it.

Too much pains cannot be taken in preparing cotton for market, for they are all well remunerated by the additional price. The first thing to be attended to is to have it gathered free of trash. With a little care, wonders can be effected in this way; and hands with a short training, will pick almost if not quite as much without trash as with it. It should never be gathered when wet. And here it may not be out of place to remark, that one of the very best sanatory rules of a plantation is, never before frost to send out your hands to pick, until the dew has nearly or quite disappeared. It saves time in the long run, as well as health and life. Cotton should never be ginned, until the seed are so dry, as to crack between the teeth. If damp, it is preferable to dry it in the shade, as the sun extracts the oil and injures the staple. If by accident, however, it gets wet, there is no alternative but to put it on the scaffold. It is of great importance to sort the cotton carefully, into its several qualities, in ginning and packing, for by mixing all kinds together, the average of the price is certainly lowered. A few old hands, or very young ones, breeding women, sucklers, and invalids, will earn excellent wages in a gin house, at this occupation. Neat packing is of no small importance, in the sale of cotton, and no little taste may be displayed, in making the packages. The advantage of square bags, is universally known, and the committee are astonished that any other should ever be made now.

Every kind of manure is valuable for cotton. Every kind of compost, green crops turned in, cotton seed, and even naked leaves listed, and left to rot, improves this crop. When planted on cotton seed, and sometimes on strong stable manure, it is more difficult to retain a stand, owing probably to the over stimulus of these manures. So, on leaves, unless well rotted, the cotton will long continue to die, in consequence of the leaves decaying away and exposing the root too much to the sun and rain. These difficulties may be avoided, by a little pains, and by no means justify the opinion entertained by some, that cotton should never be planted on fresh manured land. The only question is, the cost of the manure. A great deal may be made on every plantation, without much trouble or expense, by keeping the stables and stable-yard, hog and cow pens, well supplied with leaves and straw. And also from pens of corn-cobs, sweepings from negro and fowl-house yard, and the rank weeds that spring up about them, collected together and left to rot. Whenever the business is carried further, and a regular force detached, to make manure, at all seasons, and entirely left out from the crop, it becomes the owner to enter into a close calculation of the cost and profits. In many agricultural operations, such a course, the experience of all countries has proved to be profitable, but these operations partake more of the farming and gardening, than planting character, and whether the same method will do for the extensive planting of short staple cotton, remains, in the opinion of your committee, yet to be tested. If any thing like an average of past prices can be maintained, it is certain that more can be made by planting largely, than by making manure as a crop. If, however, prices continue to fall, and the growing of cotton be confined to a few rich spots—those susceptible of high manuring—then our whole system must be changed, our crops must be curtailed, and staple-labor losing its past value, the comparative profit of a cotton and manure crop will preponderate in favor of the latter. As a substitute for manuring on a large scale, resting and rotation of crops is resorted to. In our light level land, the practice of resting cannot be too highly recommended, and by a judicious course—such as resting two, and planting two, or at most three years, our lands may not on-

ly be kept up for ever, but absolutely improved. From rotation of crops but little advantage is gained for cotton. After small grain, whether from the exhausting nature of that crop, on light lands, or because the stubble keeps the ground always rough and porous, cotton will not do well. After corn it is difficult to tend, as from our usual manner of cultivating corn, grass is always left in full possession of the field. It does best after cotton, or after a two years' rest. Rest is the grand restorer, and the rotation chiefly required in the cultivation of cotton.

It may not be out of place to state here, that in the opinion of your committee no other kind of labor can be profitably employed in the culture of cotton, than *slave labor* in this country. The expense of machinery and carrying to market, renders it unprofitable, with but one or two laborers, which are all that one free family, can in general supply, while it is almost impossible, to carry on the steady and unvaried operations of a cotton plantation, with such hirelings as can be obtained here. An irresistible necessity must fix them in the occupation. Whether that necessity be the open and legalized slavery of this country, or the equally imperative exigency which forces the Irish peasant, and the Indian ryot, to labor without ceasing, as the sole condition of existence, makes but little difference. It is said that free labor, by which, no doubt, is meant such labor as this latter, is the cheapest. It would seem, indeed, where the labor of an able-bodied man can be commanded at any moment, for a pittance that barely suffices to keep soul and body together, that it would cost less than to support the same man in sickness as well as health, in good or bad seasons, to nurture him when young, to support him when old, and at all times to furnish him with good food, comfortable raiment, and safe medical assistance, and to do likewise for the feeble and decrepid of his family. It is undoubtedly the case, so far as the agriculturist, only, is concerned. But what is done by him for his negro slaves, must be done to some extent by the community at large, for the equally helpless *free* laborer. Poor laws and almsgiving shift from the agricultural to the other classes, the burden of keeping him alive, and supporting his family, when his services are not needed, or he is unable to render them, and it is only inasmuch as he is worse lodged, clothed, and fed, than the negro slave, or is cut off by starvation or disease, before he has ceased to be able to work, that the cost of his labor, is in reality less than that of the slave, to the community at large. Let the philanthropists of other countries, enjoy the advantages of such economy as this, and thank God that they are not as other men. We are content to follow the example of the ancient patriarchs—to uphold the institutions regulated by the inspired lawgiver of the old, and neither abolished nor condemned, by the immaculate Author of the New Testament; well pleased to pay a higher price for our labor, if it goes to prolong the life, or increase the comforts of that invaluable class, which has existed, and is destined to exist in all times and countries, whose lot it is, literally, "to earn their bread by the sweat of their brow."

Your committee cannot conclude these desultory and incomplete remarks, without adding, that with every care and attention, in the cultivation of cotton, after the adoption of every improvement, and using the utmost economy in every arrangement, there is no planter in our section, if there be any in the state, who can make the legal interest of 7 per cent. per annum, on his investments, by planting cotton, at present prices. There are very few of them, on our best lands, who can realize this much, at 10 cents per lb. net, and not many who can do it at 12 cents. If prices do not improve, most of us will become compelled to abandon cotton. If they fall lower, it will be difficult to say who can plant, in this section, at least. A very few years more, will decide our fate. It will be the part of wisdom to go on, and endeavor to perfect the art of planting, that we may be able, if it is possible, to compete with richer soils, and more congenial climes; but it would be folly, if we did not, at the same time, look around us to see what our country is capable of yielding, and encourage liberally every effort to develope our resources, diversify our productions, and introduce new staples.

J. H. HAMMOND, *Chairman.*

GUNNY BAGS AGAINST KENTUCKY BAGGING.—

From the Natchez Free Trader.

We noticed on Saturday last, the arrival at New Orleans, of a vessel direct from Calcutta, with bags enough to cover 300,000 bales of cotton. The gunny bag is a strong fabric, of which large quantities are manufactured in the East Indies, where labor is very cheap. Large quantities of them are carried to Calcutta, from as far back in the interior as Thibet. The new demand which has sprung up for them in the United States, growing out of the high duty laid on foreign bagging, for the protection of Kentucky hemp, will give a great impetus to the East India manufacture, and we may reasonably expect hereafter to get a full supply of, perhaps, an improved article, unless the tariff party in congress should seek still farther to oppress the cotton planters, by laying a duty on gunny bags. These bags, as the name implies, come here in the shape of *sacks*, to avoid the duty laid on roll bagging, and they are easily cut and sewed, so as to make a neat and substantial envelope for a bale, capable, we believe, of resisting the boat-hooks, quite as well as the ordinary hemp bagging. They are decidedly cheaper. Let us suppose five gunny bags to a bale, (each bag holding about 2½ bushels,) at 12 cents each, would be 60 cents per bale.

Kentucky bagging, at 30 cents, 6 yards to the bale, would be $1.80 per bale; being a difference of $1.20 per bale.

Now, if the planter is so situated, as to be able to adopt Mr. *Joseph Dunbar's* recommendation, to substitute *hoop-iron* for rope, there would be a still greater saving. This iron can be had at 7 cents; rope costs 12½ cents. Allowing eight pounds to the bale, there would be a difference in favor of iron hoops, to say nothing of neatness and durability, of 44 cents per bale. So that, according to this calculation, if we substitute gunny bags for hemp, and hoop-iron for rope, there will be a saving to the planter, of $1.64 per bale—a sum more than sufficient to cover the expenses on a shipment of cotton to New Orleans, and its sale in that market.

We understand also that a northern manufacturer has contracted to deliver in this city, for sundry gentlemen, a heavy article of cotton bagging made of our own raw material, at 23 cents. Hemp bagging is now, we believe, about 28 cents. Here then is a cheaper article, equally substantial, offered to the planter, made of the inferior cotton, grown perhaps on his own farm. It is *cheaper* than hemp; but even if sold at the same rates or a cent higher, it would be wise in the planter to purchase it; and thus increase the consumption of our own products.

MR. LAW'S ESTABLISHMENT.

From the American Farmer.

Having, unfortunately, more leisure upon our hands than is either profitable or pleasant, we visited, a few days since, the stock establishment of Mr. Geo. Law, and were highly gratified at the admirable economy of his arrangements, as well as with such of his stock as we saw. As most of his *blooded* cattle have been removed to the estates of several of his friends, we only saw ten of his Devons and one Durham, the former he is about shipping to the south, where from their fine qualities we are sure they will find favor, the latter is a good animal imported for his own use.

Of hogs, we had the pleasure of witnessing such an exhibition of *sorts* and *sizes*, as would have satisfied any *hog-ologist* in the country. There may be seen the *improved Ulster Irish grazier*, the *white Berkshire*, the *black Berkshire* and the *Woburn* or *Bedfords*, each in their purity, and of different families. Of these several breeds let us speak more in detail.

First. The *imported Ulster Irish grazier*. Of these Mr. L. has 4 boars and 10 sows, which were imported by him through confidential agents from Ireland. His agents were not limited as to price, but instructed to get the best, and to take particular care in selecting them from different families, so as to preclude the necessity of breeding in and in. These hogs are either black, or black and white, sometimes being spotted and at others listed, the hair thin and somewhat fine, the body is of great length and barrel formed, the middling of immense depth; hams well shaped, expansive chest, well turned shoulders, ears large and projecting over the eyes, neck and head of proportionate dimensions, legs such as may be supposed to belong to animals of such huge magnitude, calculated alike for the support of their ponderous bodies and for the facility of travel.

We have said that Mr. Law's agents in Ireland were unrestricted as to price, and in corroboration of that assertion, we will mention the fact, that for a boar and a sow Mr. L. paid £100 sterling. But these two animals are of great size, and we are certain, if thoroughly fattened, would weigh 1000 lbs. each. The boar some time since weighed, when in thin condition, upwards of 700 lbs. The sow is fully as large as her consort. She has at present a litter of fine pigs, and as she laid down to offer the aliment of her paps to her offspring, we could but remark the elephantine resemblance which her recumbent position presented.

Among Mr. Law's importation of improved Irish graziers, there is a young sow about 12 months old, whose mother weighed 900 lbs. She is a beautiful animal, and promises to do no discredit to her lineage.

The reader may suppose that this variety of the hog, from the immense size, is hard to keep, and requires large quantities of nourishing food; but we were assured by Mr. Law that such is not the fact, and in corroboration of his assertion, he showed us a pen, in which there were about thirty Berkshires, Irish graziers and Woburns, whose only feed, since the first of June last, has been the offal of the garden, all of which were in good condition. With the easy keep of the Berkshires and their disposition to take on fat most persons are familiar, and we do not disparage the merits of this popular breed, nor do we do more than justice to the Irish graziers and Woburns when we say, that on the meager fare, described above, they have done full as well as their companions, and would lose nothing by a comparison of condition with them, thrifty and kind as they are known to be.

As we looked at the Irish graziers and the black Berkshires, side by side, it struck us very forcibly that they would make an admirable cross: that while the Berkshires would curtail the size of the ear, length of legs, and coarseness of the Irish grazier, the latter would impart size to the former, without materially interfering with the beautiful symmetry of form and accuracy of proportions of the latter. But of the correctness of this opinion let those who may visit Mr. Law's establishment judge for themselves.

Secondly. The *white Berkshire* is a round, compact-bodied hog, with sufficient length of side to give sightliness to his figure: he is easily kept, comes early to maturity, and will weigh, if well kept, 200 lbs. at nine months old; his hams, middlings and shoulders are of fine form and size, legs short, ears pricked, bearing strong resemblance to those of its sable namesake, and is just such a hog as the farmer should have, who dislikes trouble in the procurement of food for his swine; for unless we are egregiously mistaken in our estimate of his qualities, he would puzzle even such an owner to keep him poor, and would come to the slaughter at a year old, if only allowed the privilege of a range in a clover field, from 2 to 300 pounds in weight. Of the white Berkshires, Mr. Law imported seven, 2 boars and 5 sows.

Thirdly. The *black Berkshires*, as you all know, are the crack hogs of the day, and as their excellence for luscious hams, shoulders and middlings, has been so often sung, we are loath to enter on a theme so worn-out and threadbare, as to be like that of a fourth of July oration, which has long since set its face against novelty and defied genius itself, to embody a new thought. They are of docile disposition, and such is their indomitable propensity for taking on fat, that it is impossible to repress it even by stinted fare and unkind treatment. They arrive at early maturity, and if well kept will weigh from three to four hundred pounds at 18 months old.

Fourthly. The *Woburns* or *Bedfords* vary in their color, some being nearly white, with small blue or black spots interspersed over back and sides—others black and white spotted, or black

and white listed, while others are mostly white with large bluish spots on them. Of these Mr. Law has several boars and breeding sows, selected from Maine and Pennsylvania from different litters and families. Those from Maine were bred by Mr. Hayne, a gentleman of great celebrity for his Woburns, and as much may be said of the Pennsylvania breeder. Pigs of this variety have been made to weigh at 7½ months old, 238½ lbs. This fact is sustained on the authority of the Hon. Levi Lincoln, formerly governor of Massachusetts. In speaking of this breed that gentleman says: "The expense of keeping and fattening these pigs, I am satisfied, was less than with any other breed I ever raised, and the proportion of bone and offal to the valuable parts, was surprisingly small." We will not attempt a minute description of the Woburns, and shall content ourself with observing that they are finely formed, evidencing great capacity for size, fat, and travel. That they arrive at early maturity is attested by experience, and that they will give *good weight* at a very early age is proven by the trial of Gov. Lincoln, alluded to above. One of these sows which I saw at Mr. Law's, a white and blue one, is the most perfect specimen of pig-beauty we have ever seen.

Mr. Law has two piggeries, one nearly adjoining his tasteful residence on Hollins street, the other half a mile farther west. The first though small is judiciously arranged and neatly kept; but why need we tell this, as those who know its owner, know that neatness and order must be preserved within the limits of his domains. His second is on a much larger scale; the little farm on which it is situated contains 18 acres of land, which is in part appropriated to the culture of roots for the sustenance of his stock.

Some months since, Mr. Law imported from Ireland, three improved Durham short-horn cows, the which being on the estate of a friend at some distance, we did not see; but from representation, we learn, that they are very superior animals, combining goodness of points and handling with immense size.

As Mr. Law's location in the city, and business engagements, do not allow him those facilities for breeding of cattle essential to success, he would dispose of this importation at fair prices. To gentlemen who may desire to possess themselves of genuine and superior animals, without the hazards of a transatlantic voyage, the present opportunity of being gratified, is one of rare occurrence, and should be promptly embraced.

Mr. Law has in his two piggeries about a hundred of the several breeds, which he will sell at $20 a pair at 3 months old, and $1 for the pen—feed to be provided at the cost of the purchaser. Persons disposed to purchase from this establishment can have their orders promptly filled by forwarding their money to the publisher of the American Farmer. Also for the Durham cattle.

BLACKBERRY JAM.

From the Southern Agriculturist.

Though a common, wild, and generally despised fruit, the blackberry makes an excellent jam, the use of which is found very serviceable in disorders of the kidneys and bladder, besides being a very agreeable sweetmeat. Put into a stone jar a quantity of blackberries not ripe, but of full size and of a rich red color. Cover the jar and place it in a kettle of water. Set this over the fire, and make it boil. Let it so boil during six hours, supplying the water in the kettle lost by evaporation. At the expiration of that time, take it off the fire, put it into a preserving-pan, and to every pint of the mashed fruit, add a pint of water, and two pounds of lump sugar, clarified together as before directed. Set it on the fire, and stir it about until of a proper consistence. Then put it into pots in the usual manner.

ARRANGEMENTS OF FLOWER-BEDS, ACCORDING TO M. CHEVREUL'S ESSAY ON COLORS.

From the Gardener's Chronicle.

M. Chevreul has demonstrated, in an ingenious essay upon the subject, that the contrast of colors is of the greatest consequence, whether for good or for evil; and that, if to dress a brunette in sky-blue makes her sallow, or a blanch in orange makes her ghastly, or a fresh-colored girl in white makes her red, so, to place discordant colors near each other, produces just as disagreeable effects, though not quite so personal, in a bed of flowers. We shall not, just now, fatigue our readers with the philosophy of this matter, for which we refer them to Carson, and other divinities of the toilet: it will be sufficient to point out what the gardening results are to which M. Chevreul's inquiries have led. He says, that what are called complimentary colors, always suit each other. Now the complimentary color of red is green; of orange, sky blue; of yellow, violet; of indigo, orange yellow; and, consequently, blue and orange colored flowers, yellows and violets, may be placed together, while red and rose colored flowers harmonize with their own green leaves. White suits blues and oranges, and, better still, reds and roses; but it tarnishes yellows and violets. In all cases, however, where colors do not agree, the placing white between them restores the effect. The following combinations are also said to be good,—orange yellow with pale blue, greenish yellow with deep rose, deep red with deep blue, and orange with violet; white suiting all these combinations more or less. On the contrary, we should always separate rose from scarlet or orange, orange from orange yellow, yellow from yellow green, blue from violet blue; and even red from orange, rose from violet, and blue from violet. Applying these conclusions to the dahlia, which is now about to be planted out, the following arrangement of colors is recommended. In lines, the following succession, viz., white, reddish scarlet, white, rose lilac, yellow, violet or purple, orange, white, reddish scarlet, purple tinged with green, rose lilac, yellow, violet or purple, orange, white, red scarlet, deep purple, rose lilac, white, yellow, violet or purple, orange, white, &c.

To produce the best effect in *patches* of seven arranged together thus,—

O O
O O O
O O

we may have 1, six orange, with a purple or violet centre; 2,

six purple or violet, with a yellow centre; 3, six yellow, with a purple or violet centre; 4, six scarlets, with a white centre; 5, six white, with a scarlet centre; 6, six rose, with a white centre; 7, six blackish green purple, with an orange centre. These seven patches forming a straight border, may be then repeated in an inverted order, which would give thirteen patches, and there should be a patch of seven whites at each end. If the border is circular, without any central point of view, the foregoing arrangement should be repeated ad infinitum, without inverting the order after the seventh patch.

Another advantageous disposition would be the following;—

White. Pink. White. Orange. Violet. Yel.
O O O O O O
Pink. Yel. Whi. Or. Vio. Whi. Yel. Whi. Vio.
O O O O O O O O O
White. Rose. White. Orange. Violet. Yel.
O O O O O O

Scarlet. White. Bl. purple. White.
O O O O
White. Yellow. Scarlet. White. Pink. Bl. purp.
O O O O O O
Scarlet. White. Bl. purple. White.
O O O O

In this arrangement, violet may be substituted for purple. These are points that richly deserve the consideration of those who are now about to plant out beds of verbenas, pelargoniums, and other tender annuals, for they will be found to affect essentially the display of agreeable colors. It may be difficult to apply them at first, but the attempt should be made at once, and such notes prepared during the flowering season, as will enable the principles to be carried out another year. In dressing and adjusting the stands of flowers in a florist's exhibition, the harmonious contrast of color can always be kept in view, and the importance of attending to the effect of complimentary colors observed advantageously. The ground color of such stands should be most especially consulted; and it should be remembered, that the nearer colors are brought together, the more decided is their mutual effect.

THE DAHLIA.

From the Gardener's Chronicle.

The dahlia is subject to vary so much in different situations and seasons, that great difficulty exists in gaining an accurate knowledge of the merits of each kind, especially of those which have been only seen for one season. The circumstances under which it is grown are also so various, that unless you see the plant, you cannot fairly judge the merits of the flower. A great deal of attention is requisite, in order if possible to find out what particular culture a given plant has been subjected to; for example, whether the shoots have been much thinned, the flowers shaded, a great deal of manure given, or none at all, &c. All these circumstances should be inquired into, or how can we expect to get fine flowers from new kinds? The following facts with regard to new kinds of dahlias, should always be borne in mind before condemning them the second year:—

1. That the seedling plant is much debilitated by propagation, and therefore the flowers are rarely as good the second season as they are the first and third. This circumstance alone accounts in a great measure for the dissatisfaction expressed of late years concerning the merits of new dahlias.

2. That the best flowers are obtained from those plants struck from the first cuttings produced by the mother plant, notwithstanding that they are seldom as strong as the cuttings that are afterwards produced.

3. That exciting the roots by means of a strong heat early in the spring, and striking the young plants on a strong dung-bed, tend to weaken the plants so treated to such a degree, that they frequently require two or three seasons to recover, and regain their original character. Thus it is found that good flowers are obtained with the least trouble from those plants kept in pots the first season after striking, (termed by the trade pot-roots,) planted out the following season, and allowed to start of their own accord.

4. That in wet seasons manure is frequently very injurious, from its causing the plant to grow too luxuriantly, and thus to produce but few flowers; while in very dry seasons, it is equally beneficial. Much more depends on a change of soil, than on its composition and quality; with moderate attention, good flowers may even be obtained from plants growing in brick rubbish.

5. That water is a point which cannot be too much attended to; a great difference exists between hard and soft water; but still more depends on the manner in which it is applied; for one or two good waterings are much better than a small quantity given three or four times a week, which is but too common a practice among amateurs: and,

6. That taking up the roots immediately after a frost has destroyed the top, is the principal cause of so many roots dying during the winter season.

We recommend the young dahlia grower always to remember these facts, which may not only be taken as rules for judging new dahlias by, but may also save him the vexation and disappointment consequent on the production of bad flowers from new and expensive sorts of dahlias.

APPLE GATHERING AND KEEPING.

From the Worcester (Eng.) Journal.

We have long been of opinion that a great error is committed by persons in general in gathering their apples for winter store before the fruit is sufficiently matured; also that it is unwise to make a general gathering, instead of effecting the operation by degrees and in detail, according to the kind of apple, whether more or less hardy, of an early or late sort, a short or long keeper, &c. In other harvestings judgment is exercised; one species of pea ripens later than another and is left longer to mature; one variety of wheat is garnered before another is ready for the sickle; one sort of potato retains its haum green to a later period than another, and is allowed to remain longer in the ground, and without doubt wisdom and experience dictate the operation! But in an orchard of winter apples, no matter how many sorts form the store, how various their kinds, or

what state of maturity the fruit, all are taken from the trees, although from some the leaves are falling fast, and on others they should not be off till the middle of December. We can adduce better authority however than mere opinion; we have results of our own experience to vouch for the correctness of these remarks. During the early part of the winter of 1839, that is, in the month of December, after the trees had been laid bare of their leaves, a peck or two of apples of a keeping sort were discovered, which had undesignedly been overlooked; they were gathered, and in fine condition, the bulk of the crop having been housed five or six weeks, and undergone the processes of heating and "sweating," which are supposed to be essential preliminaries to their safe keeping. Those off the same tree were yellow, looked shrunk and shrivelled, and in flavor had become, by comparison, rank and coarse; while, to our surprise, those of the newly-culled portion of the crop were sound, hard, firm, full, juicy, not mellow, and with all that freshness of flavor and texture which is never to be found in an apple that is not recently plucked. We regretted then that for so many years we had followed in the wake of others, and had not exercised a little judgment and discrimination, since it was evident that to suffer them to hang longer would be an advantage hitherto unimagined. Having purchased our experience, we have this season retained every kind of apple and pear (though contrary to the received opinion respecting the propriety of early culling this latter fruit) nearly a month later upon the trees, in many cases until the leaves had entirely left them; and we have found the results to be such as we anticipated. Every species is in better condition than we have ever known. Every scheme for keeping apples we have made trial of for many years, and put ourselves to an infinity of trouble in order to ascertain the best; we have "shelfi" them; buried them in the earth like potatoes; laid layers in sheets alternately of apples and straw: spread them on the floor of a loft separated from one another, with an unglazed window, which admitted freely the "winter's flaw;" tried that of covering them up in bran: also in fine dried white sand; warmth in closets; cellar temperature; total darkness; leaving them in heaps to sweat; storing them immediately from the trees; wiping and looking over and removing all those which were specked every week, packing in barrels with a linen covering over them, to abide the alternations of frost and thaw, as is the practice in America, and after all have arrived at this conclusion—that very little trouble is requisite, if caution is exercised in gathering them that they may not be bruised; they should then be laid in heaps for a few days in an airy spot, a barn floor for example, and afterwards packed in chests, barrels, &c.; and if care be taken to look them carefully over at the time of storing, no other attention will be requisite, excepting that once or twice more in the course of the winter and spring the same attention should be repeated; of course they must be kept secure from frost, and no English lincloth will suffice for this desirable end.

To those persons who may intend to purchase young trees of the most useful kinds, and who may not have "Lindley's Orchard," or other book to consult, and who are so unfortunate as to possess no opinion of weight on which to rely, and are therefore compelled to trust to the recommendation of a nursery-man, it may not be unacceptable to meet with a few names of apples suitable for all seasons, of which we can speak from experience in unqualified praise. First, that delicious apple, the Hawthornden. The next that ripens and is fit for all purposes is the Keswick codlin. Then follow Caraway russet, golden pippin, Downton pippin, a lovely little fruit, of a shape and color unequalled, keeping until January, and although not so full a yellow, far more mellow; Norfolk beaufin, (Biffin,) fine, firm, juicy, and large, fit for all purposes, of a very deep red purple hue, and celebrated for a local purpose, though meriting general culture; nonpareil, Downton nonpareil, Downton russet, small, and delightful when baked in the months of March and April; Winter pearmain; Scarlet pearmain; golden Hervey, Downton gilliflower, Ribston pippin, French crab. Here are fifteen kinds, quite sufficient in number and various in qualities for any private gardens, and certainly of the highest merit. Those with Downton attached to their appellation have been raised by Mr. Knight, president of the Horticultural Society, and sent by him to us. We therefore can attest the excellence of those which we have named.

AN EXCELLENT REGULATION—PRESERVATION OF BIRDS.

From the Albany Cultivator.

A friend has forwarded us a law passed at the last session of the Pennsylvania legislature, providing for the safety of certain kinds of birds during the early part of the season, or while they are most serviceable to the farmer, to take effect in the county of Chester, and parts of the counties of York, Lehigh, Delaware and Montgomery. The act declares it to be unlawful for "any person to shoot, kill or destroy, during the months of April, May, June, July, and the first ten days of August inclusive, in each and every year, any robin, flicker, bluebird, woodpecker, thrush or other insectivorous bird, other than blackbirds, under a penalty of two dollars for each and every offence." The act does not prevent any person from killing such birds as are found attacking newly planted grain crops; and it is to be hoped it will prevent that indiscriminate and wicked slaughter of these useful little birds, that are our most effectual aids in destroying the multitude of insects that destroy the fruit and the crops of the farmer.

APPLE JAM.

From the Southern Agriculturist.

The apples, which should be ripe, and of the best eating sort, being pared and quartered as for making apple jelly, are put into a pan with just water to cover them, and boiled until they can be reduced to a mush. Then for each pound of the pared apples, a pound of sifted sugar is added, being sprinkled over the boiling mixture. Agitate it

well, until reduced to a jam. Then put it into pots.

The above is the most simple way of making it; but to have it of the best possible clearness, make a thick syrup with three pounds of sugar to each pint of water, and clarify it with an egg, as before directed. Then add one pint of this syrup for every three pounds of apples, and boil the jam to a proper thickness.

NEW UTENSIL FOR CUTTING DOWN CORN.

To the Editor of the Farmers' Register.

September 20th, 1841.

Dear sir:—As the season is fast approaching for cutting up corn, I send you a sketch of a very simple implement for that purpose, which I deem preferable to the hand-hoe in every respect but one, and this is—it makes the arm slightly sore at first, until the laborer gets accustomed to the unusual motion, which he soon does. One of these implements was given to me several years ago by a very good farmer, who recommended it highly, and I have found that he did not say too much in its favor. If the cutting edge be made of well tempered steel, and always kept sharp, I believe no one could witness the use for an hour without admitting its superiority to the hand-hoe, even if that also was kept perfectly sharp.

But one great obstacle to the introduction of new tools and implements, however superior they may be to old ones, used for similar purposes, is, that too little attention is paid, by those who are prevailed on to try them, in the first place, to having them well made; and secondly, to keeping them in good order. This neglect often brings the best of them into disrepute, and they are not unfrequently thrown aside as worthless, when the fact is, that they never have been fairly tried.

The manner of using this corn-stalk cutter (if I may give it a name) is, for the laborer to commence with two rows at a time, thus: let him take hold of the stalk or stalks, either on the right or left hand, with his left hand, and cut with the right. The man next to him does the same with his two rows and both throw their stalks together between them, taking care that their but-ends shall all lie the same way. This enables one picker up to serve two cutters; whereas, when the hand-hoe is used, each cutter must be followed by one to pick up after him, as the stalks fall in every direction, so as to require to be taken up one or two at at a time, before the follower can get an armful. In the other case it is obtained at a single grasp, and the stooking goes on nearly or quite as fast as the cutting up. Another advantage which this method has over the common one is, that the jar of the stroke of the hand-hoe often shakes off the ears of corn, which increases the labor of the pickers up. This very rarely if ever happens when the corn-stalk cutter is used. But as the old adage admonishes us that "the proof of the pudding is in the eating," let the two modes be fairly tried by the same hand, and if the preference be not given by all impartial witnesses to the new, rather than to the old method, then will I cheerfully submit to whatever censure I may deserve from those whom I may have induced to make the comparative trial. In order, however, to make it a fair one, the decision should not be left either to the laborers themselves, or to their overseers, most of whom are generally too much prejudiced in favor of all their old practices to judge impartially of new ones. Let the owners of the farms, on which the trials are made, be the judges, and let them notice accurately, by their watches, which method consumes most time. Let them also take special care that the laborers in each case move as nearly at the same place as they can be made to do. Without this precaution, they will be very apt to exert themselves most with the hand-hoe, that they may produce a decision in favor of the "*old way*."

In conclusion, I beg leave to suggest that the same hands should be employed in both trials, on land of uniform quality, on an equal quantity of corn, planted at the same distance, and having the same number of stalks in a hill. Nothing will then be wanting to make the comparison as fair as possible; and if any *will* make it, let me beg that they will report the result for your paper. I remain, dear sir, yours, very sincerely,

JAMES M. GARNETT.

N. B. I would remark, that six laborers is the most convenient number to employ, if the two modes of cutting up all the corn before it is stooked, or if cutting and stooking at the same time be tried, because in the latter case they must be differently divided. That is, when the hoes are used there will be 3 cutting up and 3 following, but with the other implement, there will be 4 to cut up and only 2 to follow them.

Description of the corn-stalk cutter.

The handle should be from 21 to 24 inches long, and about the thickness of a hoe-helve.

The shank of the iron 5 or 6 inches long, as broad as the helve is thick, and confined therein by two small rings.

The blade 2 inches wide, 3-8 thick on the back, and the cutting edge sharp. Its length from the joint to its insertion in the handle, as indicated by the dotted line, should be 7 or 8 inches.

N. B. The curve being sketched from memory, may not, perhaps, be quite as crooked as it should be. If not, the defect can easily be corrected.

We should have had to regret that the late reception of the foregoing communication would

alone have prevented its appearance, in the last month's number, even if an engraving could have been procured in a few days—which is impossible in our inconvenient locality. As soon as circumstances have permitted, the publication is made. For articles designed for a particular time of publication, it is generally necessary that they should be in hand as early as the 20th of each month; and if an engraving is required, several more weeks of previous time will be required.

Though not able to judge of the superior advantages of the particular operation described above, not having seen the operation or the utensil, we have long known that the general principle was correct; that is, that the same laborer should cut the stalk with some light utensil, worked by one hand only, and hold and dispose of the stalk of corn with the other hand. Such a course was described fully in our first volume, by Major Steger, of Amelia, his utensil being a small hoe, with a short handle. And this we tried, and were satisfied of the benefit; but could not persuade overseers and negroes of the propriety of changing the old plan for the new—and the small hoes were soon laid aside, and the old plan resumed. From our trial, we should prefer a small hoe to the new utensil; but that is probably because of our want of acquaintance with the latter.—Ed. F. R.

STRAWBERRY JAM.

From the Southern Agriculturist.

Put the fruit into a jar, and stand this in a pan of boiling water over the fire. As the boiling proceeds, keep mashing the strawberries with a wooden spatula until they are all bruised to a pulp. Then put them into a preserving pan, and to every pound add three quarters of a pound of sugar clarified in half a pint of water. Boil the whole until of due consistence, which will occupy more than half an hour; keeping the jam in constant agitation, lest the bottom should burn. When done enough, take it off the fire and put it into pots.

CRAB APPLE JAM.

From the Magazine of Domestic Economy.

Pare the crab apples when quite ripe. Put them into a stone jar, cover it well and put it in a pan of boiling water for an hour and a half. Then prepare the syrup with two pounds of sugar in half a pint of water, for every pound of the apples. Clarify the syrup. Then put the apples into it, and boil the whole to a jam.

PROTECTION OF WRENS, AND THEIR USEFULNESS.

The wren, I had always supposed, was a destroyer of bees, until I was told, a short time since, by a very intelligent lady from the city of New York, that her father used to encourage their building about his hives, by putting out all the horse skulls that he could obtain. She said that her father raised his hives about two inches, by means of small blocks under the corners, that the wrens might go under to clear the hives from moths, worms and dead bees, which they did effectually without disturbing the bees.—*Union Agricult.*

BERMUDA GRASS.

To the Editor of the Farmers' Register.

Dear sir:—In perusing the July number of your Register, my attention was called to an article upon the subject of the "Bermuda grass," extracted from the Milledgeville Recorder, and I beg leave, through your publication, to add my feeble testimony to the great value of this grass to our southern states. Where our lands have become exhausted from long cultivation, and improper management, and where there is nothing left us but our barren clay hills, this grass has proved to be the only one that can withstand the excessive droughts that of late we occasionally have, and which are becoming more frequent and of longer duration. It is emphatically a *sun grass*, and will flourish wherever the rays of the sun can freely reach it. There is no grass which spreads so rapidly, and I believe none so easily eradicated when required. It soon perishes in the shade; and I believe when the surface of the ground can be protected from the sun for one summer it would be destroyed, but this is only an opinion, not derived from any actual experiment, but merely from observation.

But my principal object is to call your attention to one very important error, which I think the writer of the article above referred to is laboring under—that is, in regard to its *bearing seed.* He states that it *does not* bear seed. Now, sir, this is a great mistake, or the grass which has for years in this state borne that name is entirely a different grass. But I believe he is wrong, and that the Bermuda grass *does bear seed; and moreover I believe every grass, without any exception, does the same.* To convince you of the truth of my assertion in regard to this particular grass, I send you enclosed a few sprigs of it, some of them pulled when in bloom, and others pulled when quite matured, and let you examine for yourself.

At the same time, I believe this grass does not go to seed, when closely grazed, and think the writer of the article referred to above, who signs himself a 'Clodhopper,' must have been deceived in this manner. He also states as another fact, which also conflicts with my experience on the subject, that this grass is never spread from place to place by stock. I will merely state a fact which I think will suffice to show that this is also an error. The Bermuda grass was introduced into this neighborhood some 8 or 10 years since by a neighbor of mine, who is in the habit of riding to our village, 7 miles distant, occasionally, and whose

horse is generally suffered to run in his yard where this grass is growing. In a few years after its introduction this same grass was seen to spring up all along the road from his house to town, and has, at this time, in some places spread over considerable ground.

Let this suffice, and let me close by saying, I concur entirely in the high encomiums upon this grass given it by my brother Clodhopper, and urgently recommend it to the attention of all those in our county who are desirous of having fine grass pastures, or who have old lands they wish to turn out of cultivation. And I may here state, that the best method I have found of getting it to grow upon our lands, is during any rainy spell of weather in the spring or summer, to dig patches of it up, and then to chop it up fine, root, stem, and all, and sow it broad-cast over the ground where it is desired to be grown. In this way I have succeeded in spreading it over the whole surface of a lot of ground in one summer, although that summer was so dry that every other grass died in our pastures. Very respectfully, yours, &c.

ANOTHER CLODHOPPER.

Jefferson county, Miss., Sept. 15, 1841.

The specimen of Bermuda grass from Mississippi is identical with our "wire grass," *Cynodon dactylon.*

The general appearance of the specimen, however, was so different from that of the *C. dactylon* growing on our cultivated land, that, at first sight, I was inclined to believe it at least a variety of that grass. But, on examining the *C. dactylon* growing where it has been mown or grazed, I find that it presents a similar habit to that of this specimen of Bermuda grass. The leaves are narrower, culms shorter, and the plant altogether more slender than when growing on ploughed land.

The *C. dactylon* has in the United States a wide range—extending as it does from New York to Mississippi.

M. TUOMEY.

[We learned also from a private letter received from Mr. Curtis, that he considered Bermuda grass and wire grass to be the same. It is very remarkable that a grass so highly eulogized in one region should be deemed one of the worst weeds elsewhere.—ED. F. R.]

OBSERVATIONS ON THE SECONDARY AND TERTIARY FORMATIONS OF THE SOUTHERN ATLANTIC STATES. BY JAMES T. HODGE.

From Siliman's Journal.

* * * * *

Near the Roanoke, some miles above Williamston, I observed the marl by the road-side, and although it was hard frozen and nearly covered with snow, I recognized in it many individuals of our common recent shell, the Venus mercenaria. This is a very poor part of North Carolina; the land is quite flat and sandy, and during the winter season one frequently rides for miles through water several inches deep, by which the roads are flooded. * * * *

In the very western part of Jones county, I first met with the limestone of the secondary formation. It is on the plantation of Mr. Humphreys, at the heads of New river and Trent river. The rock lies in a heavy ledge on the borders of a swamp; its surface is much worn and ragged. It is of a straw color, and apparently of good quality for making lime;—on submitting a piece to chemical examination, I find it as good as the limestone of this formation usually is. It yielded in 100 parts:

Water,	1.00
Silica,	5.60
Iron and al.,	5.60
Carb. lime,	87.00
Carb. mag.	trace
	99.20

Several springs come out at its edge, which bring up small fossil shells and pieces of coral. Among the shells, which are generally very imperfect, may be recognized the Pecten membranosus, a cardium, and others common to the same formation in New Jersey. The water seems well adapted to the recent Planorbis trivolvis, Physa heterostropha, and Paludina integra, which inhabit it in profusion, and also to the luxuriant water-cresses, which equally abound in it. Around the limestone is a deposite of calcareous marl of a light yellow color, affording a very convenient and rich natural manure; but it has been entirely neglected, as well as the limestone, the little lime required for the country being brought from Thomaston, Maine, although they have enough of the rock, wood at the expense of cutting it only, and a suitable sandstone for kilns scattered through this region. This stone belongs to the same formation, and has been used sometimes for making millstones. Having fortunately some plans of kilns with me, I was happy to leave them, with the advice that the people make the attempt at least to supply themselves with their own lime.

Not far from this place, is that interesting locality in Duplin county, called the "*natural well.*" It is two miles west of the rail-road, (forty-seven miles from Wilmington,) on the road from Kenansville to Elizabeth, Baden county. Before reaching it, one may notice by the side of the road a large sink-hole, fifteen feet deep, overgrown by trees and bushes; a little beyond this, a path turns off to the left to the cabin of a Mr. John Smith, within two hundred yards of which, in the woods, is the well. It is a large circular basin, about twenty yards across and sixteen feet deep to the surface of the water; its banks are nearly vertical, although the strata are entirely obscured by the loose sand, trees and bushes that have covered them, excepting in one narrow spot, where a correct section may be obtained and specimens collected. The soil, which is sand and yellow loam, a little clayey at bottom, is from three to four feet thick. It rests on the shell marl, which is about four feet thick, and under this is a tough blue clay from six to eight feet thick, overlying a sandstone like the clay in color, the lowest visible rock. The marl consists entirely of shells and fragments of shells, with a very small quantity only of fine white siliceous sand. The shells are of a great

variety of species belonging to this formation, and they lie promiscuously together in great confusion; single valves of the bivalves are more frequently found than the two together, and even the stronger univalves are most often seen in fragments. So abundant are they, that in cleaning out some of the larger shells a great number of small and more perfect specimens were found in their interior, and added to my collection. A Pectunculus quinque-rugatus, in particular, enclosed between its two valves a multitude of shells and fragments closely imbedded in a fine clear quartz sand. The contents when picked out occupied a space full twice that in which they were so closely packed. Although the diameter of the Pectunculus was only two inches and one fourth, there were in it a Cytherea reporta, beautifully preserved with its natural polish, one and one-third of an inch long, and itself filled with other smaller shells and a purer sand than that which surrounded it—several small Ostreæ, Corbulæ, and duplicates of twenty or thirty other species. There are, as seen by the accompanying catalogue, about 80 species found at this locality. Of these 12 are recent, and 20 at least heretofore undescribed. Some yet undetermined remain in the hands of Mr. Conrad, and of these only the genera are given. The Oliva idonea has been previously described by Mr. Conrad; it is one of the most beautiful shells found here, being finely preserved, and most of the specimens not having lost their natural polish. The people living in the neighborhood know them by the name of "key shells," from their procuring them to attach to a bunch of keys. The cones are of the species *adversarius*, so named from their being nearly all reversed; one of mine is the only exception known. The bivalves are only occasionally met with entire.

It is remarked that the water in the well never varies in freshets nor droughts, and tales are told of ineffectual attempts having been made to sound it, and of a strong current setting through it, sucking down whatever is thrown in; that there is a current I doubt not, it being nothing unusual for a stream of water to sink suddenly under ledges of limestone, as at the Eutaw springs in South Carolina, and the limestone of the secondary formation I believe to be not far below the surface of the water, perhaps directly under the blue sandstone at the surface, which is very likely the upper rock of that formation, and the blue clay the lowest of the middle tertiary, as it often is (the lowest tertiary is wanting in this part of the country.) The limestone of Jones county is not far off, and such sinks as these are frequent over limestone beds; in Georgia they are called "limestone sinks."

With my valise and saddle-bags well stored with specimens, and a keg full strapped behind the saddle, I proceeded to South Washington, on the way to Wilmington. In this neighborhood I discovered again the secondary formation on the N. E. banks of Cape Fear river. The rock is a blue sandstone, containing the characteristic Exogyra costata, Belemnites, Plagiostoma palagicum, Anomia ephippium, &c. The existence of this rock between the tertiary deposites on the east and the west, seems to indicate an anticlinal axis here, which extending north, accounts for the elevation of the secondary throughout Jones county, and the broad extent of country on each side occupied by the tertiary marls. The axis must be low, and the dips very gentle, causing at most a slight undulation of the strata.

To the east of South Washington are large tracts, called bays and swamps, one of which, called on the map Angola bay, was described to me by one who had crossed it. After traversing its margin, which was a broad swamp covered with thick trees and bushes, my informant and his companion came out upon an open heath, spreading as far as they could see, and destitute of all vegetation, save a thick covering of moss and a few scattered bushes. Through this moss they travelled on with great difficulty, plunging in at every step nearly knee deep. Procuring a pole from the trees on the border he sunk it down eight feet into the mud without finding bottom. The moss and mud of these swamps would thus seem to be those always due to *peat* swamps. At night they reached an island in the swamp with a few trees upon it. Here they remained till morning, and then continued their course across, and reached the other side about noon, greatly fatigued. He thinks they are called "bays" from the quantity of bay trees that grow around them. Holly Shelter swamp is similar to this. These swamps remind one of those in the southern parts of Georgia, the islands of which were once inhabited, according to an old Creek tradition, by a superior race of beings, whose beautiful women, called "daughters of the sun," occasionally condescended to help out the poor bewildered traveller, lost in their intricacies, but who, with their houses on the islands, were never to be found by man, though eagerly sought after.

At Wilmington is another interesting locality, where not only the tertiary marl corresponding to that at the natural well is found, but the secondary sandstones and conglomerates below it are well exposed on the banks of Cape Fear river. The lower tertiary is wanting, and this marl bed, which is from two to three feet thick, is seen resting upon the sandstones, containing shells belonging altogether to the upper secondary formation. Above the marl, and resting on it, the upper stratum observed is of sand and loam, containing a few layers of small white pebbles. The marl is nearly as prolific in shells as the same formation at the natural well. * * * * * * * Comminuted shells and fine sand form the marl stratum, and these are either converted into a solid mass not easily broken, or remain unconsolidated. The sandstone beneath is in one place a compact siliceous mass, but a little way off it changes to a coarse pebbly rock, consisting of small, rounded quartz pebbles of a dark color; and then again it becomes so calcareous that with proper care it might be burned to tolerable lime. The pebbly rock or conglomerate contains shells, and corals, and small sharks' teeth, in abundance. Large teeth are rare, as are bones which are said to have been found in it. The shells themselves have generally disappeared and left only the casts; these, though very abundant and perfect, render it extremely difficult to determine the species. The genera are principally Cyprea, Cirrus, Gryphea, Ostrea, Anthophyllum, Nautilus, &c.

The proximity of this locality to the wharves and the town of Wilmington, would render it easy for strangers to obtain specimens thence.

The marl is not here esteemed as a manure, probably because the soil is so sandy that the shells must decompose very slowly in it. By first applying large quantities of clay to it, and then the marl, no doubt very beneficial effects would result.

To the south of Wilmington I noticed the marl again on Little river, near its mouth, just over the boundary line in South Carolina. The shells closely resemble those at Wilmington, the most abundant being large Arcas; but they were all tightly cemented together by a ferruginous cement, forming a solid ledge on the edges of the water. This is the farthest point to the south where I observed this deposite; but I was told it occurs again on the Waccamaw river.

In treating of the tertiary formations of our country, I have preferred using the conventional names adopted by Mr. Conrad, of upper, medial, and lower tertiary, to those of pliocene, miocene, and eocene, applied to similar formations in Europe. The former merely indicate relative position, and are therefore sufficient at present; the latter imply a relative proportion, of course not very exact, of extinct and recent shells; and though our own formations may now each give about the same proportion with the English formations, still when two hours' work may discover more than twenty undescribed species in one locality, besides some recent species not before noticed in the formation; and when our knowledge of the living shells of our coast is so imperfect, it certainly proves that the adoption of these new names would now be hasty. It would be at once taking it for granted, (as it is certainly not proved,) that our strata will be readily divisible into the same three formations as those of Europe; and all difficulties, if any are hereafter encountered, will be too apt to be made to bend or to be neglected, for the sake of keeping to this favorite but unproved system of classification. This subject, I hope, will be more fully discussed by Mr. Conrad, and sustained by more complete details than I am able to furnish.

At the locality last mentioned, near the boundary line, are found through the fields singular deposites of oyster shells, each extending over several feet square and about two feet deep. No account is preserved of the time or cause of these collections. They were made centuries ago, probably by the Indians. Corn does not grow well by these heaps, at which I was rather surprised.

There is a well known locality of the secondary limestone at the Eutaw Springs, near Nelson's ferry over the Santee, in the western part of Charleston district. The striking similarity of this rock to that in Jones county, N. C., first attracted my attention. Like it the limestone rose above the surface in heavy ragged ledges, here at least fifteen feet high; it was of the same light yellow color, and contained similar fossil shells. Similar springs too rise among the ledges of the rock, and they contain the same recent shells, and watercresses in greater abundance. But the water, I noticed, was lukewarm, and one of the largest of the streams, after running only about fifty yards, suddenly disappeared under the limestone, and was no more seen. The rock does not contain a great variety of fossil shells; the most abundant are some large Ostreæ, of what species I know not, the specimens being lost. On this account, too, I cannot speak so decidedly as I wished to have done of the quality of the limestone, which ought certainly to be of some practical importance, being on a river navigable by steamboats, and in a region where lime bears a high price and wood is very cheap. A little enterprise and skill only are requisite to create an extensive business here in the manufacture of lime. But though its good effects as a manure force it upon the notice of those who use the adjacent fields, still no attempts have been made to extend its use farther than nature has seen fit to spread the rock, and the calcareous deposites formed from it.

So on the Ediso, in Colleton district, this rock is equally available, and equally neglected; and though lime enough might be made on these two streams to supply the whole of the eastern parts of South Carolina and Georgia, at an expense not exceeding fifteen cents a bushel, yet the inhabitants prefer to import their lime from Thomaston, Maine, and pay at Charleston $2 per cask, or when brought up to the neighborhood of these vast quarries it sells for $3 per cask! In Chester county, Penn., while on the geological survey of that state, I have seen lime made and sold for *ten cents* a bushel, where the natural facilities are no greater than here. And when on the same business in Maine, and employed at Thomaston in obtaining the statistics of the lime business, I came to the conclusion that the southern states must be remarkably deficient in limestone; that notwithstanding the difficulties the Thomaston people had to contend with, in the high price of fuel, a bad harbor, that frozen up one third of the year, and their remoteness, still they managed to monopolize the lime business of the Atlantic coast, of the Gulf of Mexico, and up the Mississippi to Natchez. The average cost of a cask of lime at the wharves at Thomaston, was, as near as we could estimate it, about seventy cents, and this included twenty cents for the cask. But unfortunately the term "cask" represents no definite measure. By law it should hold "forty gallons," five bushels, but every mason of whom I have made inquiries, and who has measured them, says their capacity is continually changing; that most of them contain *less* than a common flour barrel, and that *three bushels and a half* is probably near the average measure of their contents. Their large size is made up by enormously thick staves, and heads about an inch thick, and frequently large empty spaces remain in the cask. Yet for this meager amount of lime the people of South Carolina are willing to pay a sum for which they themselves might make full *eight times* as much; and by thus rendering it cheap, the labor lost to their favorite crop would not be missed, when thereby a bale of cotton to the acre would not be considered a maximum product, nor *two* ears of corn to each of the widely separated hills a subject worthy of remark.

The prejudice of workmen—their not liking to use a different material from that they have been accustomed to—is one reason why the Thomaston lime has successfully competed with all other lime made on the Atlantic coast. The name of that is favorably known and deservedly so, and it will sell when another equal to it from another locality will not bring even a very inferior price. There was a remarkable instance of this a short time since in New York, some excellent lime from

Rhode Island hardly finding a market at any price. Most of the Pennsylvania lime contains magnesia, and yet celebrated as is the Philadelphia mortar for whiteness and durability, and as are the fine farms of Chester and Lancaster counties, which are enriched almost entirely by lime, there is a universal prejudice against magnesian limestones. But this cannot last; and now that the Tide-water canal is opened, the Susquehannah river lime must soon rival that from Thomaston in our southern ports; the home-made lime must here come into extensive use, though prejudice and a want of enterprise may long keep it unused and unknown. This rock belongs to the same formation, and precisely resembles much of that which I have seen in the western part of New Jersey. Its composition is no doubt the same, and this is seen in Prof. Rogers' Geological Report of that state, to vary as to the proportion of carbonate of lime from seventy-five to eighty-eight per cent., the residue being chiefly silica, with a very small amount of carb. magnesia, iron and alumina. This too corresponds with the analysis given above of the limestone from Jones county, N. C. The silica is the least injurious ingredient, its principal effect being, unless the rock is burned at too intense a heat, merely to render less sand necessary in tempering it for mortar, while the magnesia is not only of small quantity but doubtful tendency, and the oxide of iron is generally in too minute proportion to seriously injure the lime by giving it a very dark color.

Besides the lime that will hereafter add to the mineral wealth of this region, there is near Pocataligo, on navigable tide water, a deposite of the purest quality of quartz sand, suitable for the manufacture of glass. The pebbles of which it consists are small, sharp, angular fragments of perfectly pure quartz without any foreign mixture. It may be obtained in any quantity, and would probably pay for transportation as ballast under the cotton loads, either to the northern glass-houses or across the ocean. The locality is just half way between Charleston and Savannah, by the turnpike, on Mr. Spike's plantation.

There is one more locality of the secondary limestone I visited, which is near the Savannah river, in Georgia, at a place called Jacksonboro'. The perfect similarity of the rock with that in Jones county, North Carolina, and on the Santee and Edisto in South Carolina, admits of no doubt that it is the same with them, and continuous through this wide extent of country. Even to the straw color of the rock, the brooks flowing out at its base, the lukewarm water, and the little shells that inhabit it, they are all nearly alike. This has been partially quarried, and the limestone burned. On opening the bed it is found to be about twelve feet thick, and within from the surface, the stone is of a much whiter color, closely resembling chalk, and appearing as if it had already been burned. The heap of rock in a hot southern sun presents so dazzling an appearance that one's eyes and head seriously suffer from closely examining the pieces. They contain a great variety of fossil shells, affording most beautiful specimens; but I have not succeeded in obtaining those I collected. A rude kiln has been constructed of the coarse sandstone belonging to the same formation, and a considerable quantity of lime made. It is very white and good lime, such probably as the other localities described would afford, if worked as extensively. It is packed in boxes, which hold about three bushels, and these are sold along the river at the same price as a cask of Thomaston lime, *three dollars!* The locality is probably injudiciously selected as it is eight miles from the river, up a little stream called Brier's creek, which is navigable for boats and rafts but a short time in the year, while the same bed might no doubt be found and opened on the river.

The inferior limestone at Shell Bluff belongs to a higher formation, and cannot be so important, though here too a great deal of cheap lime might be made from the rock and the fossil Ostrea. The specimens I collected at Shell Bluff, and on which I depended to describe the locality, having been lost, I will attempt no account of it, as it could now be only a repetition of what others have said.

CULTURE OF THE SWEET POTATO.

From the Southern Agriculturist.

It is the rule of the Beaufort Agricultural Society, to appoint at each meeting, a subject for conversation and discussion at the subsequent one—and the "best mode of planting, cultivating, digging in, and preserving the sweet potato," having been under consideration at the meeting held on the 21st August, the following may be set down as the results of their consultation.

It was the opinion of a majority of the members present, derived from actual experiment, that the sweet potato should be planted *whole*, instead of the seed potatoes being cut, as is commonly done in this section of country—that, besides yielding as much when planted whole, this method has the advantage of giving a certain stand, more vigorous growth, and earlier vines. It was further the opinion of one experienced member, that potatoes planted whole and covered deep—say five inches—would grow well, and be secure against crows; he pursued this plan, and put out no field minders.

The best method of *preparing the soil*, was by passing a cow-pen over the land, six months or more before the time of planting. The ground was to be listed soon after the pens were removed—to be banked heavily when planted, and the seed inserted deep—say four or five inches in the bank. Early in March was the time decided on by the majority, as the most suitable for planting—and it was held judicious culture, to shave off the tops of the beds by a sharp hoe, as soon as the early shoots were making their appearance.

With respect to the important subject of *preservation*, there were advocates for each of the plans usually resorted to, but the majority were in favor of the bank in preference to the potato cellar. It appeared, however, that with care, the potatoes might be perfectly well preserved in either mode. If in banks, not more than thirty bushels were to be put into each bank, they were to be covered with corn-stalks in preference to pine-trash, and a stake was to be placed in the centre of the bank, which being withdrawn after some days, left an opening for ventilation. The orifice was to be

stopped in wet or severe weather to exclude rain or frost. If the potato cellar was adopted, it was material that the puncheons of which it was built should not be wet, or unseasoned—that the house should not be filled to the ridge pole—that air-holes should be left in the roof to let off the moisture exuding from the potato, and that a portion of the front part of the structure should be partitioned off, as a place for the watchman, and the smoke from whose fire would thus be carried by the wind throughout the cellar, and exert an important influence in preserving the potato. The air-holes to be stopped in heavy rains, or severe frost. The fittest time for digging in the potato was after the first white frost—and it was thought best, where banks were used, to leave the banks uncovered by earth for some days, protected by corn-stalks merely, from the weather, until some of the superabundant moisture should escape. It was thought that the use of the plough in gathering, and the wagon in transporting the potatoes, would be injurious to increasing the chance of being bruised, and the liability to decay. Respectfully, &c. W. E.

Beaufort, Sept. 10th, 1841.

NOTICES OF GRASSES AND WEEDS.

(Subject resumed from page 570.)

[Since the last publication on this subject, a private letter has been received, from a much esteemed correspondent, who therein expressed his gratification at the effort thus making to remove the confusion in regard to the many different names of common grasses. But he qualifies his approbation by an objection that may seem valid to many others of our readers, and which therefore will be mentioned to be removed here. The identity of the much debated "wire-grass" was fixed by Mr. Tuomey, by ascertaining that it was the "*Cynodon dactylon* of Persoon, the *Digitaria dactylon* of Elliott, *Panicum dactylon* of Linnæus." Our correspondent fears that by thus presenting three names instead of one, the "confusion will be worse confounded," and that these three, because of their foreign structure, would be even less significant, to general readers, than as many or more provincial or vulgar names. A provincial name teaches nothing, and more often leads a remote reader to error than to truth. But each of these three botanical names applies to the same plant, and would be so recognized by every botanist, or other person referring to a botanical catalogue. Besides, any botanical work which gives either name would state its authority, as Persoon for the first above, and at the same time mention the other names and the authority. Such superfluity of names is indeed some slight inconvenience, but can lead to no mistake—and it is not often that more than one botanical name is required to be given for one plant.

On the other hand, compare with these means of certain identification, the number of provincial names among which the agricultural public have been floundering for years—and which all attempts of the unlearned (including ourself) to rectify served but to make worse. Thus, even Dr. Darlington, on our misinformation, supposed wire-grass to be the *Triticum repens*, or couch grass, and on previous and as incorrect information, that it was *Poa compressa*, or blue grass. Now with either one of all the three names given, in the few lines of botanical description annexed, not only would an able botanist like Dr. Darlington know, and teach correctly, which is any disputed species, but others almost unacquainted with botany, and merely having access to any common botanical work, could either reach the same truth, or at least avoid falling into any such gross mistakes as have been common and long existing. Thus, it may still be doubted by many of our southern readers, who are deeply interested in the issue of the question, whether their much-prized Bermuda grass and our odious wire-grass are the same. But any of them can determine the matter for themselves, properly, by observation of the grass next summer, and referring to the description.—Ed. F. R.]

EASTERN SHORE BEAN—CASSIA CHAMÆCRISTA.

Cassia. *Sepals* five, unequal. *Stamens* mostly ten, free, unequal; three lower ones longer; four middle ones shorter and straight; three upper ones with abortive anthers. *Anthers* dehiscent at the apex.

C. chamæcrista, Linn. Smoothish; leaflets in ten to fifteen pairs, oblong-linear, mucronate; gland sessile on the petiole; peduncles two to three flowered, above the axils, shorter than the petiole; two of the petals spotted; legume pubescent.

Habitat. Sandy places. New York to Carolina, west to Mississippi flowers from June to August.—*Stem* a foot or more high. Flowers yellow; sometimes the base of all the petals spotted.—*Beck.* M. T.

Synonymes.—Magothy bay bean—Magadaba bean—Sensitive pea—Partridge pea, (which last name is more generally applied to another common plant.)

This is a very remarkable and valuable plant—valuable as a meliorating green crop furnished perpetually by nature—and remarkable and singular in this respect, that art has not yet been able to improve, or alter the benefit offered therein by nature. The luxuriant and abundant growth

of this bean, as forming a cover to entire fields, is almost confined to the sandy peninsula, called the Eastern Shore, between the Chesapeake bay and the Atlantic ocean—and, especially to the lands cultivated alternate years in corn and oats; which however is the almost universal rotation of crops in the Virginia part of the peninsula.

The Eastern Shore bean is an annual plant of the pea tribe. The stem is upright, with spreading branches; both are strong, hard and woody in texture. The leaves are shaped like those of the locust tree, (and most other plants of the pea kind,) and the flowers are yellow. Altogether, it is a beautiful plant, if viewed singly, and still more in the mass when covering thickly the whole surface of a field, and in full growth. The seeds are in pods, and are black, flat, and shaped like a rhombus with the angles slightly rounded. They are very hard, so that they may remain, if covered too deeply, for years in the earth without sprouting. To this is owing the subsequent perpetual succession, in spite of the many successive young growths killed by the plough during a year of tillage. The plants grow usually from one to two feet high, on poor and middling soils of the Eastern Shore, but form a heavier coat of herbage than would any other green crop, natural or artificial, without the aid of tillage, on the like soils.

When a field covered by this plant is ploughed in the winter or spring for corn, seeds in abundance are buried. Many young plants spring up, but are easily and effectively destroyed by the ordinary tillage of the corn. A few bean plants standing close to stalks of corn only escape the plough, and are left to mature their seed. The next February oats are sown on the same land. The beans, from seeds recently brought near the surface by the ploughing, come up so much later as not to injure the oat crop; and, when the latter is reaped, early in July, the thick under-growth of beans is not more than 4 to 6 inches high. In August it is in full growth and luxuriance, and remains so until the plants are killed by frost, after which the land is ploughed for corn again, and the same severe course of cropping is kept up perpetually. It is one of the excuses given for that scourging system of tillage, that the benefit of the fertilizing bean crop can not otherwise be had. For if a year of rest follow the oat crop, (as in the three-shift rotation) the bean growth gives way on the third year to other volunteer growths —and if the change be made permanent, that the growth of beans becomes thinner and thinner every rotation, until its important use and value are lost. The cleaning tillage of a ploughed crop, (as corn,) as often as every other year, seems to be essential to the best growth and certain succession of the bean crop. I have tried in vain (by sowing the seeds) to obtain a good cover of this plant on land under the four-shift rotation. A very thinly sprinkled growth only stood, even on land as sandy as the general character of the Eastern Shore lands. On such sandy land, in Prince George, Surry, and probably still more in other lower counties of eastern Virginia, the plants are furnished by nature, but so sparsely as to be scarcely noticed, and not of any appreciable value for the quantity or size. It seems to me that the *saltness* of the soil, which is continually subject to be covered by the vapors of the Atlantic ocean, and sometimes even sprinkled by the spray of the broken waves in violent storms, is as important to the growth of this plant, as the sandiness of the land, and its peculiar rotation of continually recurring grain crops. This opinion has not been advanced by any of those better acquainted with the plant, but has been formed upon my own failures to produce a good growth far from the influence of the sea, and from the superior growth seen on the lands most exposed to that influence, even though the most unproductive under any other growth. On one of the sea islands which is so sandy that all cultivated crops were very mean, and where the highest storm tides swept nearly over the whole island, I saw the general bean growth was far more tall and luxuriant than on the richest lands of the peninsula. At the time, I attributed this to the excessive proportion of sand in the soil—but since, its saltness has seemed a more probable cause. If this inference be correct, salt must be a specific manure for the Eastern Shore bean; and through this green manuring crop, the manuring effect of salt is produced *indirectly* upon the cultivated crop.

The correctness of this supposition, that salt is a specific manure to the Eastern Shore bean, might be easily tested by applying a very light dressing of salt to some of the growth in a place far remote from the sea.* E. R.

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SANDY BEACH BEAN.

Cassia aspera, Muh. Strigose, rough: leaves in many pairs, linear, lanceolate, ciliate: peduncles few flowered, above the axils: stamens seven to nine: three longer.

Habitat. Sea-shore. Annual. Flowers from July to September. Can be distinguished from the other species of cassia by the hispid stems. M. T.

Of this plant I know of no name applied by any other person, and of course have no synonymes to furnish. I have never seen it except as growing on the Coggins Point beach, and that of the adjacent farm, in Prince George county, and it is not more than seven or eight years since I first observed it there. To my eye, it was in appearance precisely like the Eastern Shore bean, and in every respect, except in being of much taller and stronger growth, and forming a much heavier cover on the land where it stood thickly. It stands generally above three feet high, often four; and a plant standing alone has been found five feet high. The plants grew in the almost pure river beach sand, barely above ordinary high water mark, and reached by high tides. This locality was not supposed to be that preferred by the plants, but forced upon them because the seed had floated there on the river. But subsequently facts induced me to change that opinion. I was so impressed with the supposed value of this plant, for a green crop, and its apparent superiority in product to the Eastern Shore bean, that with great labor I saved about a gallon of seed, and sowed them with wheat in autumn on a sandy marled field. The next year showed a

* This plant, and its value in connexion with tillage and improvement, were noticed at length at page 234, 5, vol. iii. Farmers' Register, in an account of a visit to the Eastern Shore of Virginia, by the editor.

very scanty growth of small plants compared to those on the sand beach—and since not one has appeared where sown. On the beach they continue to grow luxuriantly on detached spots, and maintain their earliest ground. The particular sand beach on which only this growth is known has some admixture of broken shells, and also of rich mould washed from higher land. There can be no salt in it, as the river water is very rarely brackish, and only in remarkably dry summers.

This plant would not serve as well as the Eastern Shore bean, which it so nearly resembles, for a green manuring crop on land regularly cultivated; for, if the former would grow on the fields as luxuriantly as on the sandy beach of James river, no plough could turn under the cover of the land. But, if a salt soil is not injurious to its growth—still more, if salt be beneficial to it, as I have supposed of its well-known kindred plant—then the sandy beach bean would serve admirably well to be set on sea-coast islands and beaches of almost pure sand, which are in danger of being encroached upon and washed away by the sea. Such a thick and heavy growth as this, being fixed where scarcely any other can live, would bind the before loose and shifting sand, and prevent its being carried off, either to the sea by the violence of the waves, or by the winds, when dry, to gradually spread over and destroy cultivated farms in the interior. One or the other, or both of these destructive operations of storms are continually in progress on some of the sea-islands of Virginia, and on every other low sandy sea-coast.

E. R.

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POVERTY GRASS. ARISTIDA GRACILIS, AND ARISTIDA DICHOTOMA.

ARISTIDA. *Glume* two-valved, membranous, unequal. Paleæ two pedicellate, subcylindric; lower one coriaceous, involute, three awned at the tip; upper one very minute; or obsolete. *Scales* collateral. Panicles contracted.—*Beck.*

1. *A. gracilis*, Ell.; stem very slender: flowers in spikes: spikelets few flowered, somewhat remote, appressed; lateral awns short, erect; the intermediate one longer, expanding.

2. *A. dichotoma*, Mx. cespitose: culm dichotomous: flowers racemose, spiked; lateral awns very short, intermediate ones contorted.—*Eat.*

M. T.

Synonymes.—1. *Aristida gracilis—Hen's nest grass.—Hen grass.—Poverty grass*, the name adopted in 'Essay on Calcareous Manures.'

This annual grass in its size and appearance is as small and contemptible, as it is worthless to agriculture and in every other respect. It is however well deserving of observation as being one of the most striking and unerring indications of the quality and chemical constitution of soil, and thereby serving to direct what kind of manure is wanting, and is essential to its improvement.

The poverty grass usually grows to about six inches high. Its stem is straight, hard, and not larger near the ground than a small pin, or middling sized sewing needle. Altogether, except in its diminutive size, its general appearance, in stem and leaves, is much like that of broom grass, (*andropogon scoparius,*) before the latter blooms. As small as is this grass, and perhaps unnoticeable if standing singly, it forms in the mass, and covering as it does entire acres and even fields, one of the most uniform and striking features of the poor lands of lower Virginia. Under the ordinary three-shift rotation, of 1, corn, 2, wheat, 3, pasture, this grass is the general growth of the poor land on the third year; and by winter, it remains almost the only vegetable matter on the grazed land. For it is rejected as food by the cattle, and its very hardness and elasticity prevent its being much destroyed by being trampled upon. After being killed by frost, its color changes from green to a dingy white, which gives a general and uniform light color to the fields through winter, and serves to show, in strong contrast, any spot of better or improved soil, by the different color. Next to *sheep sorrel* (*rumex acetocella*) the presence of poverty grass is the surest indication of acidity of soil, and its natural poverty; and consequently (according to my views) that the application of calcareous manure would be there highly advantageous—and indeed that, without it, the soil can never be durably or profitably enriched. Wherever a field is whitened in winter by the abundant growth of this grass, there can be no mistake as to the soil being of the bad character just described. And when such land is marled, this growth disappears immediately and entirely. This effect, and the change of appearance thence caused, are so certain, that if marl has been scattered irregularly and no marks left of its outlines, or of vacancies, the subsequent growth of poverty grass will show precisely the limits of all the omitted spots. In this manner I have discovered, years afterwards, in fields generally marled, small spots left unmarled by the accidental omission of a few loads wanting to finish a row. Thus, in the general, the growth of this grass, or its subsequent disappearance, will show with absolute certainty to the farmer the chemical constitution of his soil, in regard to its acidity or alkaline (or neutral) quality—and, accordingly, its unfitness or subsequent fitness for receiving benefit from putrescent manures.

2. *Aristida dichotoma.* No provincial name known.

As common as this grass probably was in the region where I have long lived, and on the fields which I had tilled, its existence was not known to me until very lately, as distinct from the common "poverty grass" last described. The grass now under notice is a kindred species, very like the other in growth and general appearance, and, if ever before observed by me, had been taken for the larger plants of the same. When gathering specimens lately, as supposed of the former kinds to be examined by Mr. Tuomey, he remarked the difference, and first drew my attention to it. If but a single specimen had been selected to send to a distance, it is more than probable that it would have been of this larger growth, chosen as a fine and well developed specimen, and thus I should have misled the botanist to whom it would have been referred for classification, by presenting one grass for another supposed to be perfectly well known. Thus a new cause of error would have been brought to increase the existing confusion of names. The circumstance is mentioned to

illustrate the difficulty of selecting specimens of even what are supposed to be well-known grasses.

Knowing so little of this grass, it would not have been described or mentioned, but for its near resemblance to the common poverty gra-s. The *A. dichotoma* was first gathered intermixed with *A. gracilis*, growing on poor light land in Surry county. And when its distinct characteristics had been pointed out, plants were observed standing singly and widely scattered, on almost every untrodden part of the clay roads, where no other plant grew, or perhaps could live. From this single fact alone it was inferred that the growth of this grass indicated a still greater degree of poverty in soil than the poverty grass. This species grows from 10 to 15 inches high, with hard wiry stalks and narrow leaves, like the smaller poverty grass, but differing not only by greater size, but also in the stalk diverging slightly from a straight line at every joint, making at each a very obtuse angle. E R.

ON THE NECESSITY OF A PROPER ROTATION OF CROPS.

To the Editor of the Farmers' Register.

To improve agriculture is to discharge a duty which we owe to ourselves, our posterity, our country, and our GOD. If the suggestions of self-interest be attended to, we are admonished to improve our land. If the claims of posterity are acknowledged, we are bound to improve our soils. If philanthropy has an abiding-place in our bosoms, and the welfare of our common country be at heart, we may render her a permanent benefit by turning our attention to the improvement of agriculture. If we feel grateful to a kind and beneficent Providence for the many blessings that we enjoy, we should improve our lands as an imperative duty. The individual that exhausts the soil by an improper course of tillage, not only disregards his own interest and the claims of posterity, but he inflicts a serious wound on the prosperity of his country, and assists to choke up that channel through which so many blessings are made to flow. These reflections might be followed out to almost any length, but I forbear. My object at present is to point out the way in which (as I think) the agriculture of the country may be improved—and in no way more speedily than by the adoption of a *proper rotation of crops*.

No branch of our business seems to be less understood than this. It must be obvious to every one that the selection of suitable crops to succeed each other is a subject of the greatest importance to the practical agriculturist, and one upon which essentially depends the improvement of the farmer. It appears to be a well-established fact, that there are certain juices or substances contained in the soils, either in a liquid or gaseous form, that are taken up or consumed as food by certain plants, while those same substances would be rejected by certain other plants. If this be admitted, we at once see the necessity of so arranging our crops that all the juices of the soil may at proper times be taken up by valuable crops. The propriety of this course seems to be fully understood by farmers generally in regard to the management of their stock. Our barns contain food highly nutritious to stock; but while we find the corn greedily devoured by hogs, they reject the corn leaves, which is found to be excellent food for cattle. We therefore introduce cattle to consume that which is rejected by hogs, well knowing the litter from the cattle to be good food for a corn crop, and besides, the cattle of themselves are valuable. It requires but little penetration to discover the analogy between the two cases. At the expense of a great deal of labor we cultivate and gather in our crop, which is all profitably consumed by different kinds of animals; but if we were confined to one species alone, and that part of the crop which it rejected was an entire loss, farming would indeed be a poor business. It also requires a great deal of labor to amass any considerable stock of manure or food for plants, it seems equally plain, if we have but one or even two kinds of crops to consume this stock of food, we have every reason to believe that a large proportion of that would be rejected by these crops, consequently a heavy loss is sustained by the farmer.

If the subject was exhausted, and nothing more could be said in support of a proper rotation of crops, I see no reason why every farmer should not immediately turn his attention to the accomplishment of this object, but there are other arguments that might be used, and strong ones too, and if used by a competent person they would be irresistible.

I shall now attempt briefly, in my feeble and imperfect way, to point out those crops, and the manner in which they should succeed each other, to form what I conceive to be a proper rotation of crops. And to enumerate some of the advantages that will arise therefrom. I wish not to be understood as offering any thing new, but only recommending after a partial trial its superiority. And I fancy my opinions will have more weight with some farmers, who may entertain an old fashioned preference for that which falls from the pen of the practical farmer, when I inform them that I am a practical farmer. My only means of support are drawn from the soil, and I have, within the space of seven years, nearly doubled the product of my land, without the aid of any other means than those within the reach of almost every tiller of the soil. The reader, may here wish me to stop, and answer the question, how have you effected this? I will answer it. I have used sand on some lands, clay on others, and lime on nearly all. Thereby improving the texture of the soil, and forming a permanent basis for improvement. All the vegetable matter within my reach is also bestowed on the land. But the improvement has been effected mainly through the instrumentality of a proper rotation of crops, which places at my disposal a liberal supply of vegetable matter, which is as follows: 1st, Indian corn, which receives nearly all the manure, and prepares the land for a broad leafed or green crop. 2d, peas, which keep the land in a good state for the reception of wheat and clover, or oats and clover, and obviate the very serious disadvantages of two narrow leafed or white crops succeeding each other. 3d, wheat and clover or oats and clover. 4th, grazed. The grazing of land, so much abhorred by some persons who esteem themselves good farmers, may be introduced to great advantage. It supersedes the necessity of a standing

pasture, likewise of the trampling roller, furnishes a more abundant supply of milk, butter and meat, checks or completely destroys the growth of bushes, and destroys myriads of insects that prey upon our crops. 5th, ——* a valuable crop for the land. Such is the rotation of crops, which I am disposed to believe unites more advantages than any other that I have yet seen offered to the public. It is true, some situations may not be so well suited to the adoption of this course; but of this fact I am fully satisfied, the texture of our soils may be made perfect. The seemingly abundant supplies of vegetable matter may be exhausted; *yet a never-failing and ever-increasing supply of vegetable manure can only be obtained through the medium of a proper rotation of crops.* J. S.

ON MUD.

From the London Farmers' Magazine.

Mud is the sediment, slime, or uliginous matter found in the bottom of ponds and of all stagnant waters, and is mostly composed of the earthy particles collected by the water from the neighboring grounds, and deposited in the hollow places where the waters congregate and lose the power of further progress. Leaves of trees, and various collections of animal and vegetable matters, will be added in many situations, and the composition of mud will in every case be regulated by the nature of the substances that come within the reach of the waters that flow into the pond. In the vicinity of woods much vegetable matter will be found in mud; near farm-yards, both dung and urine will be found in the ponds, while in open situations, earths and sands will be the principal materials washed down and carried along by the rains and currents. Mud in any form is an excellent manure; the particles are in a minute state of reduction, and are in the fittest possible form for blending with the soil—becoming a part, and adding to its fertility. Ponds are most conveniently emptied during summer, when the mud may be laid in a heap in a convenient place, and be frequently turned over in order to bring into life and destroy the seeds of vegetables that may have been deposited by the water, and which will lie many years in a dormant state, and again vegetate on being exposed to air and light. When this purpose has been effected, a good mixture of slaked or dead lime or of stable dung may be added; and after being again turned over and mixed, the heap will be ready for being applied as a top-dressing, and may be used at the rate of 20 to 30 cart-loads to an acre of grass land, and must be bush-harrowed and rolled during the first dry weather in the spring after application. All such compost used on grass lands should be spread by shovel from the carts without laying it in heaps, the bottoms of which are usually left too rank, and require much pains to spread abroad; by spreading from the carts, the work is finished at once and for that purpose a man will be required to assist the carter in spreading on the land, and to keep the carts moving as quickly as possible; and that little time be spent in standing, two or three or more carts may be used as distance may require.

Mud may be laid on fallows or on corn lands previous to ploughing for a crop, or on any grass lands in a fresh unmixed state, and benefit will be derived in all cases; but it is more agreeable with our notions of the action of manures, and with the results of our most approved practice, to allow it a time to dry, and to turn the mass repeatedly, and by thus reducing and blending the terrene particles, facilitate the mixing with the soil, and consequently the action of the various substances in producing food for plants. The dry state is also much preferable for equal distribution and incorporation; while, in a moist state, it will adhere less or more, and be spread in lumps. The earths in mud, being in a reduced state, do not require a destructive solvent, and caustic lime is not required, as it would corrode and dissipate the vegetable matter.

The mixing of mud or any earthy substances with farm-yard dung, may not be advantageous, though it has been much recommended; the fine earths and straw mixed together, make the future management inconvenient, and if the latter substance be decomposed to the fineness of the earths, much loss of bulk will ensue. Earthy materials are best mixed with similar substances.

"Fleech" ouse, or sea mud, is found at the mouths of rivers which admit the tide, and is usually deposited in bays and corners where the easy motion of the waters allows it to settle. Spaces of land are also covered by the flowing of the tide, and in many cases the soil forms a good manure. It has been conveyed by water to considerable distances, and mostly applied unprepared on land being ploughed for crop, where it not only yields immediate support to the crops, but adds to the staple of the soil.

It has been found very useful in improving mossy lands, but in other instances the repetition of heavy doses was not attended with any benefit; and in many places, the use is entirely neglected from the substances producing no effect on any crop where it has been fairly tried. The quality is various, the carriage heavy, and the effect very uncertain. J. D.

ON LUCERNE.

From the London Farmers' Magazine.

The cultivation of this plant is extending since its valuable qualities have become better known, and the foddering of horses and cattle in enclosed yards has been adopted. It succeeds well upon any description of land of deep staple, provided the subsoil is dry; but this is not always an exception, as upon some of the strong clay soils of good quality it succeeds as well as upon most others, which is not in accordance with its general habits, as no drainage except that effected on the surface can be given; and as far as my experience extends, I have found all descriptions of soil that will produce mangel wurtzel and Swede turnips in perfection, will likewise produce this excellent plant in perfection. I have also found it invariably succeed well after a crop of mangel wurtzel, and it is rarely if ever injured by the fly upon such rotation, from the facility with which I obtain a plant under my present system, which is by sowing every year and ploughing up a portion that is wearing out, or has become overrun with grass.

* This word is illegible in the manuscript.—Ed.

My process is simply as follows:—The land is first summer-tilled, with or without turnips, for barley or oats, and all root weeds are thereby destroyed. After the barley or oat crop is harvested, the land is immediately ploughed, and if the weather permits, one or two more ploughings are given before the winter; the land is then put upon ridges for the mangel wurtzel, and during the winter or in the spring months from sixteen to twenty loads of good compost manure are added, and the land afterwards planted with mangel wurtzel; after that crop is gathered in November, the land is again carefully ploughed, and in the following spring, if perfectly dry and friable, another ploughing is given, or it is scarified so as to produce a fine tilth upon the surface; and about the middle of April the seed is drilled in, at the rate of about 16 lbs. per acre, in rows ten inches distant from each other, or it may be sown broadcast with 20 lbs. and lightly harrowed. The sowing may take place at any time after the middle of April until the middle of June, but should not be sown earlier; the late frosts being equally injurious as the fly, which frequently destroys it altogether. Upon the young plants appearing and becoming well established, the land should be kept free from weeds by hand-weeding and repeated hoeings; at midsummer or soon after, it should be mown, and again mown early in September. In this process the scythe should have a keen edge, and upon no account should it be cut with any but a sharp instrument, as, if bruised by that operation, the next shoots will be weakened and dwindling. In the autumn, after the cuttings have been completed, sheep should be closely folded upon it; and if fed upon the spot with turnips, cake or corn, so much the better. The manuring on this plan is better adapted to ensure a full crop than by any other mode; and whilst it prevents the grass increasing, it tends to increase the produce in the greatest possible degree; but if sheep cannot be available, a dressing of well-mixed compost, consisting of stable dung and fresh maiden earth, should be applied. In the following spring little requires to be done, further than picking off the loose stones, pieces of wood, &c., that may have accumulated so as to retard the scythe during the process of mowing. If any weeds appear they should be carefully removed in March, but the hoe should be used sparingly, for at this season the slighest exposure of the roots to frost will injure it greatly. The first mowing will be ready to commence in the latter part of April or the beginning of May, and from its growing rapidly at this season may be cut early, as the succession will be better maintained; three or four cuts may be taken altogether during the summer. In the autumn of every year the folding with sheep must be repeated, or a dressing given by the compost will be quite sufficient; and if thus early repeated, the lucerne may be kept in vigorous growth from eight to ten years; but as it is far more nutritious in the first five or six years, if other land is available, and a succession of pieces is once established, it ought never to remain longer from one sowing. To those, however, who may wish to convert the land to permanent pasture, perhaps no better mode can be adopted than by letting the lucerne continue until the natural grasses supersede it. It is not necessary literally to follow the plan I have laid down; I only state it as my practice, and by that I succeed. The essential points are—First, that the land should be thoroughly cleaned, but the lucerne does not succeed well immediately after the fallow until a crop of turnips, mangel, or some other crop has been taken, that has also been kept free from weeds. Secondly, it should not be sown too early, and the seed should be new. Thirdly, clean thoroughly the first summer, and regularly fold upon it with sheep afterwards, discontinuing the hoe altogether. As the produce must vary according to the nature and quality of the soil, no statement can be furnished of the quantity other than by stating the weight of that which has already been produced; three cuttings from good land will yield from five to six cwt. per square rod. Upon two acres I have kept six horses and colts from the middle of April to this time, besides a portion used for weaned calves. Upon another farm, six acres have supported ten cart and two nag-horses during the same period. And a friend of mine, who has a very strong clay land farm of nearly 400 acres, has kept sixteen powerful horses upon eight acres, from April to October, for several years past, with the exception of three weeks between the first and second cuttings when fed upon tares. I find that my horses maintain themselves in condition without corn, and perform their work better than others that are fed upon cut clover, tares, &c., and one bushel of oats each per week. A fine piece of lucerne I calculate to be worth from 20*l.* to 25*l.* per acre; if cut for hay it should be thoroughly made, as heating upon the stack spoils it, and makes it mouldy.

ROBT. BAKER.

Writtle, Essex.

ON STORING TURNIPS.

From the London Farmers' Magazine.

Sir,—I have observed in different agricultural publications many methods recommended for the storing of turnips in winter; and amongst all those plans I have never seen any thing so simple or so efficacious as the one I have adopted with great success for several winters. I am only a small farmer, and usually store for winter and spring use about 30 tons of Swedish turnips. My method is, to make a long heap of turnips about a yard and a half wide at the bottom on a dry piece of ground, and pile them up in a triangular form as high as they will stand; then cover them with sods cut from a moss, which I procure about half a yard square. The sods when properly cut and taken care of will, from the quantity of heath in them, last several winters. Those I intend for covering my winter stock of turnips this season having been cut from the moss in 1839.

I have not found in my stock of turnips, since I adopted this mode of preserving them, 20 lbs. of rotten or decayed turnips; and I usually have some as late as the end of May or beginning of June, at which time this year they appeared as fresh and juicy almost as when they were stored in October last.

Any farmer living near a moss has a ready, cheap, and most efficacious covering for his turnips; and I recommend all who have it in their power, at least to try this plan one year.

August 3, 1841. A CHESHIRE FARMER.

PARTY POLITICS AND PRIVATE MATTERS.

We give a place to the following letter entire, (omitting only the name and residence of the writer,) for the following several reasons: it sets forth in the strongest language some objections to our editorial course, which have been stated also by others in different modes; and while it offers a fair occasion to answer and remark on such objections, it also permits us to show that *we* (different in that respect from our opponents) are not afraid to let the public see opinions stated that are the most strongly in conflict with our own. And, while designing to confess such course as we deem right, and are proud of pursuing, we will use this occasion to *deserve, for the first time*, (and it will be also the *last time*, unless again forced to it by the like operation of groundless charges of such offence,) the charge of treating of *party politics* in the Farmers' Register.

But let our friend and correspondent speak first for himself. We will not imitate the almost universal unfair editorial practice of answering an opponent in advance of presenting his argument, (and often taking care not to present it either first or last;) but, as it will conduce to clearness, and prevent the necessity of repetition, and in no way weaken the force of his attack, we shall annex our particular replies as notes to his particular charges.

———, *Oct.* 12, 1841.

Dear sir—I think some of the promises of the earlier numbers of the Farmers' Register seem to have been forgotten by the September number, if not by several others. I allude to the abstaining from politics. If political economy do not include at this time all the subjects of most violent discussion of *this day*, I have been much mistaken; banking generally, especially the regulation of the currency through the medium of the banks, being (as I take it) the most fruitful source of political vituperation of all which curse this distracted country.(*a*)

Now I am one of those who believe banks have done, are doing, and are destined to do more good, morally, politically, commercially, and agriculturally, than all the *marl banks* between the ocean and the mountains.(*b*) I believe the suspension of specie payments by our banks to have been a wise and *salutary* measure in every aspect.(*c*) I believe that our banks are *not corrupt institutions* in any point of view; because the men at the head of them are known by you and by me to be incapable of lending their aid to the conducting of *corrupt institutions*, and because no corruption has been proved upon them, or attempted to be proved.(*d*) You will perceive that, holding these sentiments, I cannot agree to assist in disseminating the *errors* contained in the Farmers' Register, particularly in the summary of news, many articles of which are taken from papers that I consider vehicles of falsehood.(*e*) You will therefore oblige me by placing my account in the October number of the Register, and withdrawing my name from your subscription list, unless you shall see proper to keep every *political article* out of the paper; in which case, from considerations personal to myself, and to you, I shall desire to continue to take it.(*f*) You will not take this objection to the paper as extending to you personally, because some of my nearest friends are to the full as *abstract*, I was going to say as *distracted*, about the banks, as you are; and because I always knew your propensity to take *your* own views on every subject, and therefore am not at all surprised at your present position in regard to this one. But I am, with the sincerest regard, very truly yours, ———(g).

EDITORAL REMARKS IN REPLY.

(*a*) Our correspondent here explains what he means by our duty and pledge of "abstaining from politics," in a manner as favorable to us as we could desire. It requires, in his view, that we should abstain from questions of "political economy," and especially that portion relating to banking and the regulation of the currency, and of course the effect of these questions on agricultural interests. Now, however much we might enlarge on our very different view of the duty or the pledge of abstinence, its meaning, and its fulfilment, we will here merely refer to the fourth class of subjects designed to be treated of in the Farmers' Register, as stated in the original prospectus, and repeated in the work, and which class has been treated of in every volume of the work. The subject is thus stated:—"4. *The discussion of such subjects of political economy as are connected with the preservation and support of the interests of agriculture.*" Thus, so far from being pledged to abstain from discussing such questions, the pledge given (and our correspondent, as one of the earliest subscribers, was one of the first to hear and receive it with at least tacit approval) was directly the reverse. The only doubt on this point that can remain, is, whether the present banking policy of this country *be* a question "connected with the preservation and support of the interests of agriculture." And that it is such, and in a degree as high as even we would place it, (indeed it is our only point of perfect agreement in the whole question,) our correspondent fully admits, and very strongly asserts in a subsequent passage.

But, when driven from the above stated ground of objection, our correspondent and every other thorough bankite will still object that we argue in support of the wrong side. Well! if so, it happens luckily for the other side of the question that we stand among publishers almost alone in this error; and that when nearly all the powerful influence of the newspaper press is exerted in the support of what we oppose, our correspondent and others might tolerate the attempt to enable the public to hear something on the other side, by means of our feeble and unsupported voice. If we are so much in error as to the operation of what we deem and will still call the fraudulent banking system of Virginia, why has not our correspondent, or others like him, opposed our numerous arguments and alleged facts, by countervailing arguments and facts? Yet, in all the four years of bank suspension, and, still more remarkably, in the last nine months of our strong de-

nunciation of the system and its train of frauds and evils, not so much as one argument or fact has been brought forward to maintain the principle, or defend the abuses of the system. Plenty of other and strongly operative means have been used to put down and destroy opposers of this despotism of fraud. But no bank dignitary or bank advocate, nor even any one of the most servile and shameless of bank slaves, has been "so soft" as to attempt to maintain at length before the public either that the alleged abuses of banking did not exist, or that they ought not to be reformed.

If indeed we have violated either pledge or duty in this respect, as charged, it must have been by discussing prohibited questions, and not taking the wrong side. Now we put it to our correspondent's own sincerity and candor, whether he would have thus denounced our alleged improper meddling with banking and politics, if we had sustained the policy which he approves, instead of that which he opposes.

(b) The uninformed reader might infer from this comparison and strongly expressed preference that our correspondent meant to convey that he thought but lightly of *marl banks;* but we happen to know that he thinks very highly of their value, and therefore that his estimate of the agricultural value of irredeemable paper money banks is so much the more exalted in proportion.

(c) We admit fully our conviction that such is our correspondent's own opinion; for we know him to be an upright and honorable gentleman, and one who, however ultra as a bankite, is no more a bank slave than we are. But, while thus admitting every thing that could be claimed for our friend's sincerity and truth, and entire honesty, we must say that his opinion of the salutary effects of the existing banking system (including non-specie paying of course) is opposed, not only by all high authority among political economists, but also, and not less so, by the wisest practical men of the bank party; for example, by Albert Gallatin and Nathan Appleton, as shown in their recent able pamphlets, which we earnestly recommend to his perusal and consideration. We do not name any anti-paper-money authority—but leave the question to be settled entirely by the best and most undeniable authorities on the other and his own side of the general question.

(d) We are not sure that we know the precise force that our correspondent means to give to the word "corrupt" as he uses it applied to the banks. We think them rather the *agents* than the *subjects* of the wide-spread and general work of corruption; that they are the *corruptors*, much more than the *corrupted.* But there are other words more definite, which in common parlance are often comprehended under the general term "corrupt," and in such sense it is probably used above. If then our correspondent means that term to imply either or all the several characters of false, unfaithful or treacherous to trust and duty, fraudulent in principle and in general operation, then we assert, in opposition to him, that our banking system and the banks *are* each and all of these. But it would be a *non sequitur*, which we have never asserted, that the officers and directors of these institutions are therefore or necessarily corrupt. And it is a still more gross *non sequitur*, that because the "men at the head of them" are honest and honorable, (for we care not to claim any exceptions,) that the banks are pure and honest, and trust-worthy. The world is full of institutions and of systems which are corrupt, and of immoral tendency and operation, of which many or most of the agents are or may be good and honest men. Our correspondent doubtless views with abhorrence the African slave trade as it was formerly legalized by the British government. Would he therefore denounce as a villain every British minister or statesman who legislated, and every military or naval commander who fought to maintain, or carry on the slave trade? If so, his denunciation would include half of the eminent men in England, during that time. Or if claiming that these men were as virtuous as most other people—or if believing, as we do, that John Newton was a pious and sincere Christian while employed for years as the regular master of a slave ship, would it be a logical deduction that the slave trade was a just, virtuous and Christian-like institution? At this time, most good and thinking men consider privateering as a system of robbery and murder. Would the expression of such general opinion convey that all who had been concerned in privateering were robbers and murderers? Or, if persons so engaged, and even leading the enterprises, have been, as many doubtless were, patriotic, honest, generous, and mreciful, is that a proof that the system and operation of privateering have the like characteristics? One of every two nations engaged in war must be necessarily in the wrong; and many wars of Great Britain (for example) have been without even color of justification, and were commenced for conquest, or other unlawful gain. But no one would condemn as a robber and murderer every officer who commanded in such wars, nor even the statesmen who directed them. And yet, according to the reasoning of our correspondent, the piety of the prime minister of England, and the honorable character of her military and naval commanders, would be sufficient ground to prove the justice of the attack on Copenhagen, the conquest of India, and the present opium war with China!!! We protest against all such illegitimate deductions, and against none more strongly than that particular one of our correspondent, and which is so generally used, and which amounts to this, that because bank presidents and directors, or many of them, may be of high and honorable character, patriotic, moral, and even religious, that the principle and the operation of the institutions they manage must therefore be honest, and beneficent. We might admit the private characters of the bank authorities to be as good as our correspondent's argument may require, and still the system under which they operate may be corrupt and abominable, and its operation on the interests of the community may be fraudulent, plundering, and even ruinous.

(e.) We admit, and regret, that most newspapers are indeed "vehicles of falsehood" to greater or less extent. As a matter of mere curiosity, we should like to know which paper our correspondent reads and confides in, as free from such ground of reproach; for, without knowing, we much suspect that he has had in especial favor, and will continue to have as a monitor and guide, some one paper which is among the most willing and operative among the "vehicles of falsehood." For our own little weekly "summary

of news," we can only say that we have aimed to furnish the earliest known news, and true statements of facts. And, for so concise and meager a compendium, still trust that we have succeeded in telling the truth as generally as any of his more favored newspapers, defective as may be some of the sources of our information. We admit no newspaper and no man as *authority* for all things; but will reject no supply of light or information, however distrustful in general of the channel through which it may come. Statements of facts should be judged by their agreement with truth in results, and not altogether by their sources.

(*f.*) According to the understanding of our correspondent of the term "political articles," (and which was answered in the first note,) we can promise no such amendment. The Farmers' Register may be deprived of all remunerating pecuniary support, and even be put down, ultimately, for sustaining agricultural and general interests against banking and borrowing interests. We know well what we are to expect from those who may honestly think and act like our correspondent—and still more from the far greater number of bankites whose motives and acts will not bear comparison with his. There can not be many, if indeed any, of the class of servile bank slaves among our subscribers; but others of that class will not the less exert themselves in every possible way to put down an uncompromising opponent to the power they serve. We have not overlooked this threatened consequence—and are not moved by its terrors. It will not be easy to *force* us to silence; and while we continue to publish, we shall not cease to maintain the contest with the fraudulent banking system, until it is either reformed, or its formerly possessed power shall be restored, and rendered impregnable. In the effort, we may be made to *break* under the storm of bank power, but we shall not *bend* to it.

As our correspondent has treated and denounced as "politics" only our articles on political economy and banking, it is perhaps superfluous to extend our defence farther than his assault has reached. But as we know that other persons, in a less formal manner and less friendly spirit, have affixed the similar charge, of treating of *party* politics, we will take this occasion to deny the charge and defy the proof. In giving any proper epitome of news or current events, it would be impossible to avoid stating sometimes the most important party events, which belong to the history of the time, and are like to have important results on matters which we are bound to state or discuss. But when interesting merely as *party* movements, or party successes or defeats, we have generally passed them over, or simply given the facts without comment.* We belong to no existing political party, and have very little respect for the general course and measures of any party now or recently having power to rule, and to abuse their trust. Personally, and in our private capacity, none can be more unreserved and open in expressions of approval of or hostility to political measures—and our course in that capacity has been, and will continue to be, to approve what we deem right, and condemn and denounce what we deem wrong, no matter which of the opposing parties may be the agents. Our correspondent knows this—and also that we have sometimes battled by his side, against what we concurred in deeming abuses of power, just as strenuously as we now differ with him, and oppose certain abuses which he upholds and cherishes, as the greatest of public benefits. But in our editorial character we have been entirely free from party adhesion. If it were worth the while, we could adduce proofs of our freedom from the charge of bias by party, in facts showing that persons of every party have at times inferred that we belonged to the party of their opponents, and that they have condemned our publication and course, on that ground. And these mistakes were caused by the usual intolerance and bigoted feeling of party men; for as every such man expects unanimity of approval for the acts of his leaders, from all of his side, he deems the slightest expression of censure of any measure of his party, as indicating the utterer to be as bigoted a member of the opposite party. And a like mistake has probably been avoided by our present correspondent, and we have therefore escaped his rebuke being extended to that point also, simply because he better knows our free political opinions, and independence of party rule.

For more than twenty years we have had no great or abiding confidence in any dominant party, while exercising power—and fear that our own state rights republican creed and principles will hereafter, as heretofore, be professed only by parties out of power and seeking its attainment. But we also deem the destruction of the irredeemable and irresponsible paper banking system as of importance to agricultural interests and to the public weal, paramount to the temporary success and rule of any party that has existed. But no party yet, while in power, has truly opposed and restrained the growth and power of the fraudulent paper system—and we therefore have but little confidence in present more than past professions on that point. We look to the great body of the people at last to rise in their indignation and compel their leaders to do this work of reformation; and not otherwise to party action, party leaders, scarcely more than to the banks themselves, to reform their abuses and frauds.

(*g.*) We value highly the assurance of our correspondent's continued personal friendly regard, because we most truly reciprocate the sentiment, and could extend in words much further the grounds of our appreciation of his worth. In condemning the course, and withdrawing his aid from the Farmers' Register, he acts, as he always does, honestly, and independently of all improper motives. It does not abate in the least our estimation of his good qualities, nor our friendly disposition towards him. Of course, we consider him as wrong-headed in regard to banks, and as obstinate in his errors, as he can possibly suppose of us. But we may both be content to balance these derogatory opinions of each other, as an account settled and done with; and we trust that in every other respect our mutual opinions may continue as they are, favorable and altogether kind and friendly.—Ed. F. R.

* The publication of a general summary of news in the Farmers' Register, has been found to be of more trouble than utility, and was designed to cease with the current volume. The designed omission however, will not be influenced by any such objections as are made above.

PRESERVATION OF VINES FROM THE RAVAGES OF BUGS.

From the Kentucky Farmer.

A friend has named to us that the following is the most effectual method to preserve young vines from the ravages of the bugs:

Take a few branches of cedar top, boil them in water so as to make a pretty strong decoction—and after it is cold, with a watering pot, wet the vines, and not one bug will touch them. This must be repeated every few days, particularly after a rain shall have washed off the decoction.

SUMMARY OF NEWS.

Friday, October 1, 1841.

Judge Tenney of Louisiana has been killed in a duel with rifle and bowie knives. The quarrel was produced by a judicial decision made in court by the judge. This is a beautiful illustration of the "independence of the judiciary."

A convention of slaveholders was held in Maryland on the 15th. Resolutions were passed that a state convention of persons favorable to the protection of the slaveholding interests of the state [against northern philanthropists and abolitionists,] should be held at Annapolis on the first Monday of January next. The convention will be composed of 480 persons.

The difficulties of the Helderberg district continue, and have increased. The tenants of Van Rensallaer have put the law at defiance. A sheriff who went to execute a legal process was seized, tied, and barely escaped with his life. The lawless residents of the district are organized for resistance to law.

The sub- treasury safe at Chicago, in the office and charge of E. S. Prescott, Receiver of the Land Office, was opened on the 11th ult. and robbed of nearly $11,000, mostly in gold. It is presumed that the receiver's bond will cover the amount, and of course the government will not be the loser.

A sudden and unusually high inundation has lately taken place of the Savannah river, which has done much injury to crops and other property. At Augusta and Hamburg, the river rose 20 feet in one night. The site of the latter town was barely above the flood.

During the week ending on the 11th, there had been 245 deaths in New Orleans, of which 164 were by yellow fever.

The barque Florida, from Canton, was wrecked on the coast of New Jersey, on Wednesday the 22d inst. Vessel and cargo totally lost. The cargo was of tea and silks, worth $200,000. Crew all saved. The accounts by the Florida were to 19th of May from Canton, and add nothing material to the previous information, except rumors.

Governor Cannon, of Tennessee, died on the 8th inst. of paralysis.

The St. Louis papers state that the three men (Burr, Walsh, and Thompson) taken in Missouri and charged with enticing away negro slaves, had been tried at Palmyra on the 10th and 12th inst., convicted and sentenced to the penitentiary for twelve years.

There are strong reasons for believing that an armed force consisting of several thousand men have been for some time organized within the state of New York for the purpose of co operating with the Canadian patriots, as they are called, in another attempt at revolt. We are informed on good authority, that the organization of these men within our own territory was never so complete as it is at present; and that it comprises a body of fifty or sixty thousand persons, who are ready to march at a moment's warning across the frontier, and to carry fire and sword into the heart of the Canadas. Whether the United States government is aware of this alarming state of affairs, we are unable to say; or whether General Scott in his recent visit to Buffalo and Detroit succeeded in discovering what was actually going on in the vicinity of those places. It is very evident, however, to observing men who reside near the Canadian frontier, that unusual preparations have been making for some time past among those who are friendly to the cause of the patriots, and the most disastrous consequences are apprehended unless this conspiracy against a nation with whom we are at peace, is broken up in time. The recent robberies of powder and arms were doubtless committed by persons in the employment of the conspirators, and similar seizures will be attempted by them hereafter, from time to time.—*Troy Whig.*

A proclamation has been issued by the President of the United States, warning citizens against making any hostile movements against Canada.

There has occurred another border difficulty in an outrage committed by Canadians. Col. Grogan, formerly a "Canadian patriot" noted for his active participation in the insurrection, but since a resident in the United States, was seized in his bed, some miles within the American line, wounded, and carried in chains to Montreal, where he is imprisoned.

An unsuccessful attempt was made to blow up the British armed steamer lying in the Niagara river. The floating fire apparatus exploded too soon, when within about 300 yards of the vessel.

Thirteen steam boats have been lost during the last four months between St. Louis and the City of New Orleans, most of them with valuable cargoes. The water at this time between here and the mouth of the Ohio is exceedingly low, and navigation consequently attended with great risk and danger in consequence of the snags.—*Alton (Il.) Tel.*

By this morning's mails, (Oct. 1.)

President Tyler has ordered that editors of political newspapers shall in no case be appointed postmasters, and that all such now in office shall be turned out. Good! This evil thus corrected has been a shameful and unjustifiable abuse and means of corruption.

Another revolution has broken out in Mexico, and Gen. Santa Ana is again in the ascendant.

The Congress of Yucatan has met and declared the entire independence of that former province of Mexico.

An Anti-Slavery Convention of Connecticut have "*respectfully*" asked of President Tyler to emancipate his slaves.

The "shaving institution," known as the Exchange Bank of Indianapolis, stopped payment on the 15th inst. It is not known what amount of its trash is in circulation, but it is said to be very considerable. Every man who holds any of it will, of course, lose it. This is a severe remedy, but it is one that will be sure to work a cure.

The stock of the broken United States Bank is still gradually getting lower in price. The last quoted was $5.75 for the share of $100, which is just $5.75 more than it is worth.

The shipments of specie from New York continue to increase in amount. The Philadelphia Ledger of 24th says—"It is now ascertained that the amount that will leave that city in all this week will not fall short of one million of dollars! The consequence already

is a difference between specie and currency there of ¾ to 1½ per cent. "—"About $300,000 left the Merchant's Bank on Wednesday for that destination [China.] Large drafts were also made on other banks to go by the Louis Philippe, for Havre, on the 24th, and nearly $300,000, it is stated, are already engaged to go by the Great Western."

The exportation of specie has been going on for some weeks past, and this week much more liberally than at any time before. We presume the same tendency will continue through next month, and perhaps longer. It would not be strange if five millions should go off, clearing the market of the quantities of Mexican dollars and other silver which is held merely as merchandize, and perhaps drawing from the banks most of their American half dollars at a premium of a half to one per cent. The banks have a large amount of gold, which is not wanted for exportation at the present rates of exchange, and is not likely to be called for. The banks therefore are not called upon for specie to supply the foreign demand, by the presentation of claims upon them. The operation now going on is altogether healthy, for specie had accumulated here until it had become burthensome.—*New York Jour. Com.*

The specie shipped in masses last week was as follows:

Gladiator for London - - -	$230,000
Louis Phillipe for Havre - - -	346,000
Great Western for Bristol - - -	271,340
Akbar for Canton via Liverpool - -	250,000
	$1,097,340

An injunction served upon the Commercial Bank of New York city, by the Commissioners, closed its doors on Monday. Cause, overtrading, or lent too large an amount to persons connected with its management.—(*Phil. Led.*) It is understood that the assets of the bank are now sufficient to render its debts safe, but not to leave much for the stockholders. This was a safety fund bank. Its capital was $500,000. Its circulation 1st January last, was $121,-370.—*Jour. Com.*

The Herkimer County Bank (New York) has been robbed by Anson C. Brown, *the book-keeper of the bank*, of more than $70,000. The financier escaped with the proceeds of his "operations," but was soon pursued, and his capture expected. [He has since been taken, and nearly all the money recovered.]

The cause of the depreciation of Wheeling bank-notes, so much below those of the other bank notes of Virginia, has been a mystery. We had no doubt but they are just as good as the others—or to speak more correctly, that all the others are as bad as those of Wheeling. But though not able to fathom the mystery, we were sure that the Wheeling banks were in some way making an extra profit by the extra depreciation of their notes. The following article from the Argus, a paper published in Wheeling, may serve to throw some light on the subject. After having announced in a previous paper, the departure of Messrs. Brady and List, the cashiers of the two Wheeling banks, the Argus of the 23d adds—"We have been informed that the cause of the above gentlemen's departure, was to make some arrangements in Richmond, to bring the value of their paper to a par with the banks of that city. Then, as we before said, "*may not an appreciation in the value of their paper be expected?*" We hope so. Since writing the above, we have received further information, that the principal business of this delegation is to sell specie—two stage loads of which our informant says, they took with them. Banks can ship off, and speculate in specie; at the same time, farmers and mechanics must receive and put up with "*shin plasters*" and depreciated currency, for their sweat and toil."

In the mean time, the Wheeling notes will make a large part of the revenue, and the treasury will lose the amount of depreciation. We trust the loss may be as great as possible, so that the people of Virginia may no longer submit to be securities-general for all the banks of the state. The greater the loss suffered now, the greater will be the saving hereafter. A bankrupt treasury, caused by bankrupt banks, would now be a blessing, compared to the continuance of the permanance of the fraudulent paper system, upheld by state securityship.

Resumption! Resumption!!—This cry is beginning to be heard, and it is full time that it should be. Some of the banks profess to be able to resume; then, if they do not resume, they are guilty of *dishonesty*, and the people must not rest satisfied until they are punished.—*Baltimore Republican.*

The Richmond Enquirer, says.—"The whole banking system in the states must be radically reformed. The suspended institutions (we mean, those that are not bankrupt,) must resume specie payments, by a wise concert and at as early a day as is practicable."

Friday, October 8, 1841.

According to the report of Mr. Ewing, the late secretary of the treasury, the sum of $319,318 remains due from the United States Bank to the treasury of the United States. (*Senate Document*, No 121.)

Judge McLean of Ohio has declined the appointment of secretary of war, and J. C. Spencer of New York has been appointed to, and has accepted the place. All the other persons recently nominated for the cabinet have accepted, and all are at Washington, except A. P. Upsher of Virginia, secretary of the navy, and Ch. Wickliffe of Kentucky, postmaster general. The former is detained at home by the illness of his brother. It is understood that all the new members of the cabinet (who form the whole, except the state department,) are opposed to the establishment of a national bank.

It is yet a matter in dispute whether the kidnapping of the Canadian "patriot" or incendiary, Grogan, from within the United States line, was by military authority, or by unauthorized volunteers. Grogan is still in jail in Montreal. His case is before the government, and he will no doubt be demanded and released.

Samuel S. Fitch, a merchant of Philadelphia, supposed to be worth between one and two hundred thousand dollars, has been arrested for forgery, alleged to have been committed 17 years ago.

The trial of McLeod has been commenced, at Utica.

The great swindler who lately got $26,000 by a forged draft on the Browns of New York, and as much on another house, has been discovered and arrested. He is, or had passed for, a Col. Monroe Edwards, of Iberville, Louisiana, and is a native of Kentucky. $44,-000 of the money has been recovered. He had been playing the character of abolitionist on a grand scale, and attempting to swindle the leaders of that sect, which attempt led to his detection. He was arrested in Philadelphia.

We understand that the crops on the plantations along the Savannah are seriously injured by the late freshet. The corn crops generally in Beach Island are destroyed.—*Georgia paper.*

The ship Shenandoah arrived at Philadelphia on Monday night, bringing accounts 5 days later (to 9th of September,) from England. No news of importance.

During the last week, 5 failures had occurred in Manchester, to the amount of £300,000.

By the last accounts from Canton, the emperor of China continued determined to yield nothing to the

demands of the British government, and was putting to death his commanders for ill success, and his counsellers for advising peace.

L. S. Cornwell, a clerk in the State Bank of Illinois has been detected in a "defalcation" effected by making false entries in the accounts. This is quite a small affair—only $800 taken before detection. As usual, the highly respectable clek was bailed, and is off—probably for Texas.

Sundry of the northern newspaper editors are much at a loss as to what sins of authorship to charge upon Judge Upshur, the new secretary of the Navy. We will tell them. He is the author of "A Brief Enquiry into the true nature, &c. of our Federal Constitution," which volume is a most able exposition and maintenance of state-rights doctrines, and to refute which, or even to impair the force of the argument, would greatly perplex any one, or all, of those who are so anxious to fix some charge upon this "Virginia abstractionist" and stout defender of strict construction and state rights.

By the steamer Acadia, arrived at Boston, London accounts are brought to September 18th.

The harvest had been secured, except in the northern part of the island, and prices were rather lower. The average prices of wheat, as stated on September 10 were for week ending July 24—68*s*. 3*d*. per quarter.

"	"	"	31—70	5	"	"
"	"	Aug.	7—72	5	"	"
"	"	"	14—74	7	"	"
"	"	"	21—76	1	"	"
"	"	"	28—74	1	"	"

Aggregate 72s. 8d. making the duty 2s. 8d. per quarter. The next week reduced the duty to lowest point viz. 1s. per quarter. The speculators will succeed completely.—*Jour. Com.*

An unsuccessful attempt had been made in Paris to assassinate the Duc d'Aumale, one of the sons of the king of France.

A serious popular disturbance had occurred at Clermont in Auvergne, and several of the military had been killed by the rioters.

The harvest was finished in France, the product considered a fair average.

A noble compliment.—We understand that the citizens of Woodford have purchased the fine farm, in that county, on which the Hon. J. J. Crittenden was born, and made him a present of it. The price paid was $17,000.—*Louisville Journal.*

The iron steam-ship, now building at Bristol, (Eng.) will measure 3600 tons. The iron, (all wrought,) is more than half an inch thick. The steamer will cost something like $500,000. It will have 5 masts, and 4 engines of 300 horse power each.

Friday, October 15, 1841.

Grogan has been released from prison in Montreal, and brought to and dismissed at the United States line, by the Canadian authorities, on requisition of the United States government.

A collision of two trains, meeting in rapid progress, took place on the Western Rail road, (Mass.) Two locomotives and several passenger cars were completely smashed, and nearly 40 persons severely injured. Three have since died, and others expected to die, from injuries received.

Gen. Samuel Houston, the vulgar blackguard and rowdy, and notorious common drunkard, has been again elected, and from private life, president of Texas. This is a strong indication of the low state of manners and morals in this young republic.

The great forger and financier, Col. Monroe Edwards, alias John P. Caldwell, has been removed to New York for trial, by requisition of the executive of New York.

The general elections for Maryland and for Georgia have just been concluded, and in both the democratic party have gained the victory. Francis Thomas has been elected governor of Maryland, and Gov. McDonald re elected in Georgia. The election in Maryland was made to turn on the resumption of specie payments by the banks, the candidates of the successful party having *promised* to vote for resumption. We hope, (*but cannot yet trust,*) that the promises and pledges to this end may be of more stability and worth than heretofore on this subject, from that party. At any rate, the fact is gratifying that to that *pledge* the successful party owed their recent success. In Georgia, it may be inferred that the same question of resumption or non-resumption operated on the election; for we learn from the Augusta Chronicle (whig paper,) that "already has the dread of such an event had such an effect upon our currency, that to day [Oct. 9] it has been *impossible to sell the bills of the Central Bank at any discount.*" This (to us) gratifying result could only be founded on the expected compulsory "winding up" or otherwise "blowing up" of such rotten banks.

The bark Amanda, from Limerick, bound to Quebec, was wrecked on Little Metis Point on the 26th ult. Twenty-nine passengers, and 12 (out of 18) of the crew were drowned.

"In all sections of the country, the community has become aroused to the iniquities of the banking system, as practised both by the late National Bank and the State Banks. In Georgia, Mississippi and Michigan already a strong movement has been made to clear the markets of the depreciated paper of the suspended banks. And in the last mentioned state, so successful have been the efforts of the people, that no banks exist in that state, and the currency is as sound as any in the union. A similar movement is going forward in Ohio with every prospect of the most eminent success. In that state there are now 30 banks, the charters of which nearly all expire in January, 1843, and the legislature of next winter will be called upon to decide on their recharter. The present charters are nearly all forfeited by their suspension, and the indications are that they can in no case be renewed, more especially as the operations of the bankrupt law during the next year, will deprive them of a large portion of their assets. The instant those fraudulently suspended banks are wound up, a sound currency will flow in upon the people, and put an end to the fluctuation in exchanges, and the extortions that they now suffer."—*Money Article, New York Her.*

Bellville, the splendid mansion house of Mrs. Mayo, near Richmond, was burnt last Friday night.

By this morning's mails, (*Oct.* 15*th.*)

From the Utica Observer of Oct. 12, we learn that the trial of McLeod was then still undecided. There seems however no longer any doubt as to his being acquitted. There was conclusive evidence that McLeod was not present at the attack on the Caroline.

The king of financiers, Col. Monroe Edwards, has been operating in England, and has got £250 out of Lord Spencer by means of a forged letter of introduction from Daniel Webster, and by forged securities. Col. Edwards concentrates in himself the business talents of Nicholas Biddle and all the directories of all the existing swindling banks put together. If he had been president of the late United States Bank, it would still have been in triumphant progress and in good repute; and President Edwards would have been deemed a still greater man and more a public benefactor, than was President Biddle.

Fresh fish (turbot) was served up at Pearl street House, Boston, brought from England in the Acadia.

The National Intelligencer (bankite) of yesterday, says—"The Baltimore Republican ascribes the late triumph of its party in Maryland, to '*the two vetoes.*' This we do not deny." This is excellent authority in such a case; and it shows that the president's vetoes have operated indirectly, to reform the swindling and rotten banking system in general, as well as to prevent one particular branch of it being again connected with, and fixed upon the federal government.

The New York Herald of the 13th announces positively upon certain, though secret information, that McLeod, had been acquitted. "Secret and confidential information" of the verdict of a jury is something new under the sun. We have no doubt of the truth of the acquittal of McLeod, but believe that the Herald anticipated it by such inferences as any person might as well draw, and not by knowing a passed result.

Last sales (or report of sales) of United States Bank stock in Philadelphia (October 13,) at 5¼. In New York "entirely unsaleable, and should be struck off the list," says the "Money Article" of the New York Herald. Having in our summaries noted its downward progress thus to *nothing*, or to the mere nominal and fictitious rate of speculators, we now bid farewell to this remnant of political iniquity, wide-spread fraud and plunder, and colossal engine of corruption of public and private morals.

Friday, Oct. 22, 1841.

As anticipated in our last week's summary, McLeod was acquitted by the jury almost as soon as the case was referred to their decision. There was no popular outbreak, nor the least ground of fear from that source to the prisoner, who was immediately released, and remained unguarded, and perfectly safe from all offence.

Young Semmes, charged with the murder of Prof. Davis, and bailed for $25,000, has failed to appear to take his trial. The next thing to be expected is that some flaw will be found in the bail bond, or other part of the procedure, and the criminal will not even pay the money price of blood. This bail process is a shameful part of the very defective criminal law of Virginia.

A slave plot for insurrection, near Purysburg, was discovered in South Carolina a few days ago. Nine of those concerned were arrested, four of whom, it is said, will be hung.

Millington Bank.—We learn from the Baltimore Sun that Mr. Ellis, president of that swindling concern, the Millington Bank, was tried last week at Chestertown, Md., and convicted. He was placed in prison after his conviction, and a motion for a new trial made by his counsel prevailed, and his trial is to take place at the next term. The charges against him are aiding and abetting in swindling, &c., while president of the Millington Bank.

Redfield.—Mr. Redfield, cashier of the Commercial Bank, New York, lately enjoined, has been ascertained to be a defaulter to the amount of $56,000. *As usual,* Mr. Redfield was a gentleman of the highest character and respectability.

The elections in Pennsylvania, as well as those of Maryland and Georgia, have gone decidedly in favor of the democratic party, *claiming* to be the anti-fraudulent paper money party, and the contest there has turned, and the victory has been gained, as in Maryland and Georgia, on the question of bank resumption of specie payments. We earnestly hope, but in great fear of the reverse, that the successful party will redeem the pledge thus given.

As one of the striking "signs of the times" the National Gazette of Philadelphia, one of the most able and thorough bankite papers, has taken new ground, and on the above subject utters such language as the following:

"The Baltimore Clipper, speaking of the result of the late election in Maryland, claims for the whigs a majority in the Senate, and expresses the belief, that no opposition will be offered by that body to any measures which may be proposed by the [lower] house, touching the finances of the state; the public debt, regulation of the banks, &c. It adds, 'It is now generally understood, that the banks will be compelled to resume specie payments; to which we suppose there will be little objection by either party, as that measure had its influence in producing the result at the election which has just terminated.'

"The banks cannot fail to perceive that the questions of resumption and a sound currency are becoming paramount to all others with the people. *Political contests are determined upon them, and the party that advocates or upholds the banks in their present course is overthrown.* So unpopular is this prolonged bank suspension becoming, that ere long there will be "none so poor as to do them reverence," if they persevere in it. We see daily evidences that the people are resolved not to tolerate the existing state of things connected with the circulating medium much longer.

"The people are becoming dissatisfied with the conduct of corporate institutions, or what may more properly be termed *monopolies.* The opinion is obtaining very extensively, that it is far better to abolish bank charters, and leave the business of banking open and free to every one who chooses to engage in it. *We fully concur in these opinions,* At another time we shall go fully into this subject."—*Nat. Gaz.*

There was some drawing of specie from the debtor banks to-day for remittance, and the amount shipped will not be far from $500,000. The Wellington has on board for London $208,000. This is a mere trifle, however, and will in no wise inconvenience the banks, which are overflowing with specie, and must continue so to be, while the specie of the whole union is driven here by the irredeemable currency of the south and west. The people of those sections continue to prefer the depreciated paper of fraudulently insolvent banks to the currency of the constitution. The consequence is that New York having a superfluity of specie, it goes to Europe, because it is more in demand there than in those states where the community reject it in favor of bank rags; at the same time they complain of what they call high rates of exchange. Nearly $50,000 arrived here yesterday from New Orleans, where the people tolerate the shinplasters.—*Money Article of N. Y. Her.*

Currency and Business.—The New York Sun, a neutral paper, has the following very just remarks with regard to the effect on currency and business of a defeat of the [national] bank bill. It says:

"As regards the effect upon currency and business, it will be nothing at all. As we have repeatedly shown, the currency and exchanges are regulating themselves much more effectually and soundly than any bank could regulate them, and trade is reviving as rapidly as the laws by which it is and must be governed will sanction. Had a bank been created, it would have made endless mischief. Having escaped this danger, business will go on, as it has been going on, in its steady, regular and natural channels. Such, as far we can learn, are the opinions of the discreet and honest men of all parties."

From Florida.—The St. Augustine News, of the 8th inst., contains advices from Tampa to the 1st. On the 6th, Col. Worth was to ship from 250 to 300 Indians westward, of whom 95 were warriors. There

are still marauding parties straggling through the interior, occasionally murdering those whom they may chance to encounter.

The East College, at Williamstown, N. J., was destroyed by fire on Sunday last. The building was 100 feet long, 40 wide, and 4 stories high.

Another explosion.—An explosion, it appears, has just occurred in the Morris Canal Banking Company, which has caused the company to remove both the president and vice president of the concern, E. R. Biddle and E. Lord. The reason for this act is stated in the newspapers to be, that these officers had loaned their friends or themselves $180,000 of the funds of the bank, to establish or improve certain iron works in Danville and Wilkesbarre, besides various other financial operations. The Directors called upon them to resign; they refused, and were accordingly turned out.—*Phil. Ledg.*

Female industry in Massachusetts.—The number of females employed in Massachusetts is 40,000, of whom about 24,000, are in the woollen factories. The aggregate amount of their earnings, annually, is estimated at $4,000,000.—*Ph. Ledger.*

Friday, Oct. 29, 1841.

The steamer Columbia arrived at Boston on the 21st, bringing accounts 16 days later from England, and to 5th inst.

The consideration of the corn law by parliament had been postponed to next session, which will begin in February, 1842. A loan of £3,000,000 had been voted and advertised for.

Trade continues to remain in a very depressed state in England, and the sufferings of the operatives are excessive in consequence.

An arrival direct from Canton brings important news. The city has been bombarded by the British squadron—40 war junks of the Chinese blown up, several thousands of the Chinese troops killed, and negotiations again entered upon. $6.000,000 had been offered to the British commander for the ransom of Canton.

John Forsyth, of Georgia, late secretary of state, died on the 21st, at Washington.

Two of the great financiers, Hassinger and Wright, are under trial in Philadelphia for swindling. They were the president and secretary of the Norristown Railroad Company, and, *as usual*, men of the highest respectability. Their joint operation was committed long ago. It consisted in fraudulent issues of certificates of loan and stock of the company for about $250,000.

The London packet Quebec, which sailed from New York for London on October 26, took $272,000 in specie.

Orders have been given to build three more war steamers—one at Norfolk, to be propelled on Lieut. Hunter's plan of paddle wheels, one at Philadelphia, on Capt. Stockton's plan, and one at New York.

By later accounts from Canton, (kept back for the purpose of speculation,) it appears that the articles between the commanders had been agreed upon, and that the ransom of six millions of dollars had been paid by the Chinese.

It is said that the North Am. Trust and Banking Co. paid its lawyer ten thousand dollars for drawing up its articles of agreement; and that the Commercial Bank has been in the practice of helping its balance with the other Banks by handing over every morning the checks of certain brokers to the amount of fifty or sixty thousand dollars. These checks were procured in exchange for an equal amount of Commercial Bank notes, which were paid out at the brokers' counters during the day, and the brokers allowed a commission.

The Havre packet, Iowa, carries out from New York, $82,000 of specie.

Another defalcation.—We are informed, from the proper source, that Mr. Sylvester Spencer, who for many years past has had charge of the pension office attached to the Mechanics' Bank in this city, turns out to be a defaulter to the amount of about $11,000. The president of the Mechanics' Bank has promptly caused Mr. Spencer to be committed.—*Journ. Com.*

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